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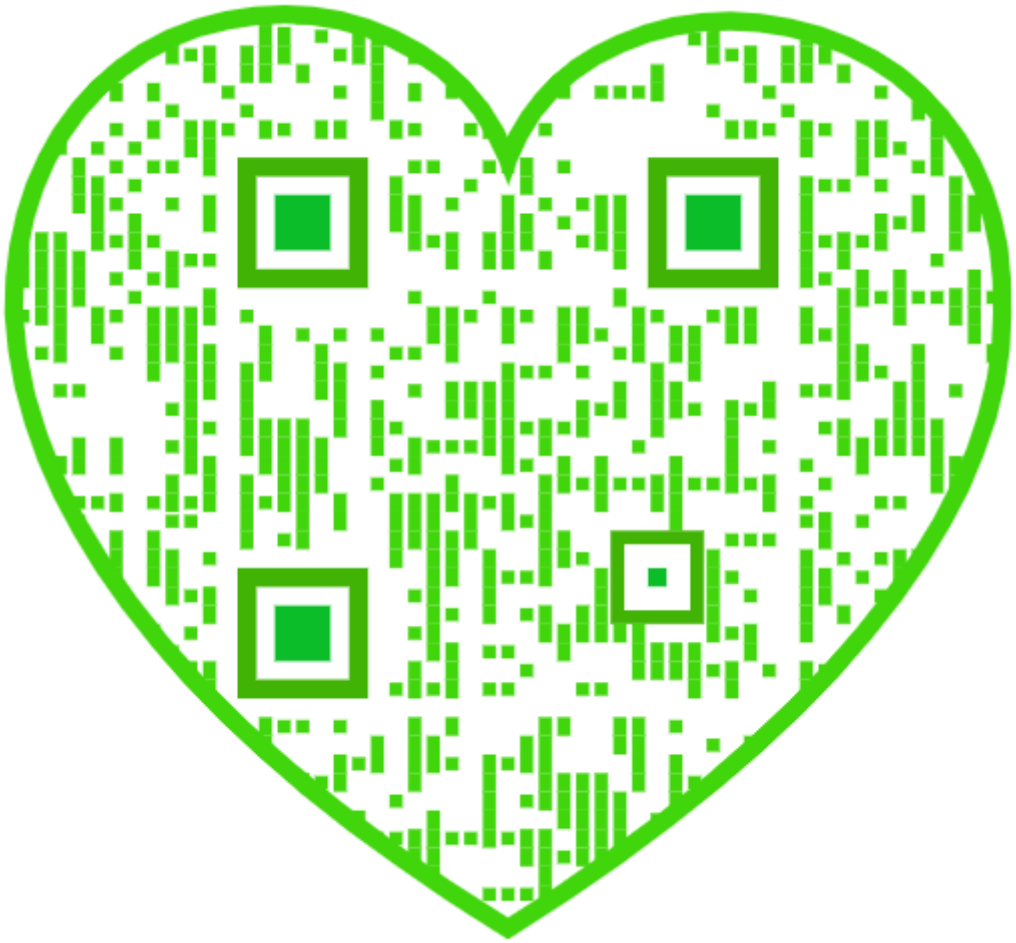

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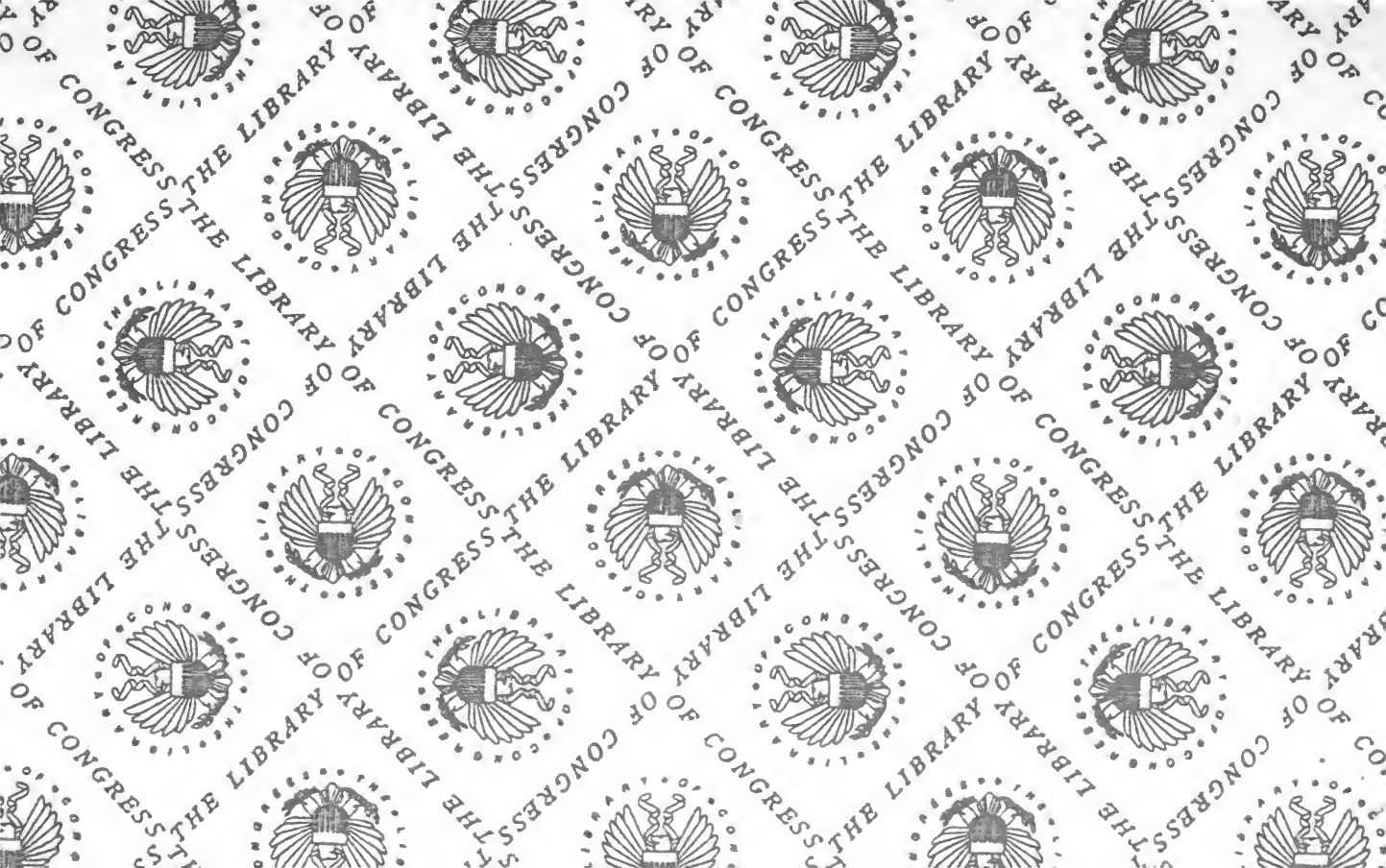
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THE

IMPROVED SYSTEM

OF

EDUCATING THE HORSE,

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BY D. MAGNER,

AUTHOR OF THE NEW SYSTEM, &c.

ALSO A

TREATISE ON SHOEING,

AND THE

DISEASES OF THE HORSE AND THEIR TREATMENT,

WITH VALUABLE RECIPES, &c.

15. 16.

EIGHTH EDITION, REVISED AND ENLARGED.

ROCHESTER, N. Y.
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1869.

common practice, I would call your attention to some of the most common causes of annoyance and trouble, both in relation to the peculiarities of disposition to be found in horses, and to imprudence of management, that should be guarded against.

It must be admitted that our present Theory of subjection for both general and local resistance, is by far the most scientific and practical that has yet been discovered or taught, and that we can produce results now with horses which to assume ability to do a few years since, would be regarded as impossible. We have shown how easy it is to control the most powerful horse, and how readily the most vicious animal will yield perfect obedience to every command when properly treated. But principles, are simply rules to accomplish certain ends most easily and surely, and their principal value in practice must depend upon the judgment used in applying them. The horse is governed by fixed laws. He is an animal of great strength, and acute sensibilities.

Now, as the sensibilities excite the action of the mind in calling the strength into play, it is quite or more important that the sensibilities are not exposed to causes that would excite their undue action, as well as aim to combat resistance when excited.

The mind or BRAIN is the part that controls the animal, and to this the attention must be directed as the key through the action of which the animal is guided and controlled. It is by the brain the horse understands and obeys, and it is by the brain or nervous system, being subjected to bad impressions, that resistance or fear is excited. If the fears and passions are

excited in forcing obedience, the increased resistance in consequence neutralises the advantage of power, or the necessity for force will be greatly increased; if, on the contrary, physical resistance is overcome without exciting the passions, no resistance being excited, obedience is easily secured. A man will not fight if not excited in some way, and a child is good natured, and progresses rapidly and smoothly in his studies if gently and skillfuly instructed. If scolded, abused, and irritated, the animal part of his nature subverts the reason, and the only impulse is enmity and retaliation. Of course it is the primary object, and it is one of the great conditions of success, to guard against causes of excitement, which, it is conceded without argument, always increases the difficulties of success, by not only so confusing the mind as to be unable to act, but increasing the difficulty of resistance, it is important to prevent.

The simplest and rudest form of government is that based upon power to take life or inflict bodily injury—the weak yielding to the strong from necessity; the highest and most successful that of addressing and winning the co-operation of the reason and affections. Human government is based upon the restraints and penalties of law, Divine government to the highest faculties of the mind and affections. The more ignorant and excited by passion a people, the more severe and positive must be the powers of restraint and punishment; the more enlightened and free from depraving influences, the less necessity for restraint or watchfulness.

On the same principle, we see that the more animal predisposition there is in a horse, or the more his bad nature is excited, the more unre-

liable the character, and the more difficulty there will be in forcing obedience.

The point now of nice importance is: How can the wild, bad horse, be reduced to perfect subjection without exciting the passions, or endangering injury. This I have shown how to do, and of course cannot give explanations of the treatment here—excepting those on details, which will be found hereafter, since it was taught as a secret; but based upon this is the object of showing and teaching the horse a knowledge of what is required, and on this point I would call the attention of the reader to an imprudence that must be guarded against, of pounding, yelling and jerking, that can have no other effect upon the animal than to irritate and confuse.

Importance of Truth and Uniformity.

Horses cannot talk, and consequently cannot understand the meaning of language, only so far as associated with actions. The meaning of words or signals, can only be learned by associating words with actions—consequently, to understand clearly the meaning of each signal or command, they must be uniform, necessitating care in conveying the meaning desired, using only the actions and words by which the animal is taught to do what is required. Now it is a common, but of course unintentional, fault in most men, not only in training, but in using their horses, to talk and act so carelessly with them, that it is scarcely possible for even the best trained horses to understand, or obey promptly the commands of the driver. For example, it is common to say "whoa," on any

and most all occasions. If going too fast whoa is several times repeated to go slower.

A gentleman while showing me a favorite horse, that would not stop or stand when commanded, when approaching and while handling the animal said whoa fourteen times, though it was necessary to say whoa but once. Yet the man could not see that such treatment was exactly of the character to teach carelessness and resistance.

There could not be an understanding of the commands since they were without definite meaning.

It is evident that if a horse is not moving, this word when used looses the force of its meaning, and if it is desired to go slower it cannot convey the idea desired, since it is the signal for stopping. The best trained horse in the world would soon be spoiled by such carelessness of expression. Not only this, but there is a habit of yelling every little command that is out of all reason. As the horse must learn to understand, and to obey every command by actions and words, the expressions given to the actions and words should be carefully regulated to indicate the energy and promptness with which obedience becomes necessary. For all ordinary purposes, the tone of voice should be rather low, but clear and distinct; at each repetition a little sharper and more positive; and there should be the greatest care to exact perfect obedience to each command; as it is only by each word and action, and the expression with which they are given, having exact and fixed meaning, that the horse can understand instantly, and obey with certainty and readiness.

Too much at a time should not be attempted with the horse during his tuition. The lessons should be short, but thorough, encouraging by little presents of apples, or something the animal likes, for obedience. Special care should be taken to thus caress and reward a sensitive, courageous horse, especially after resisting, and force has been used.

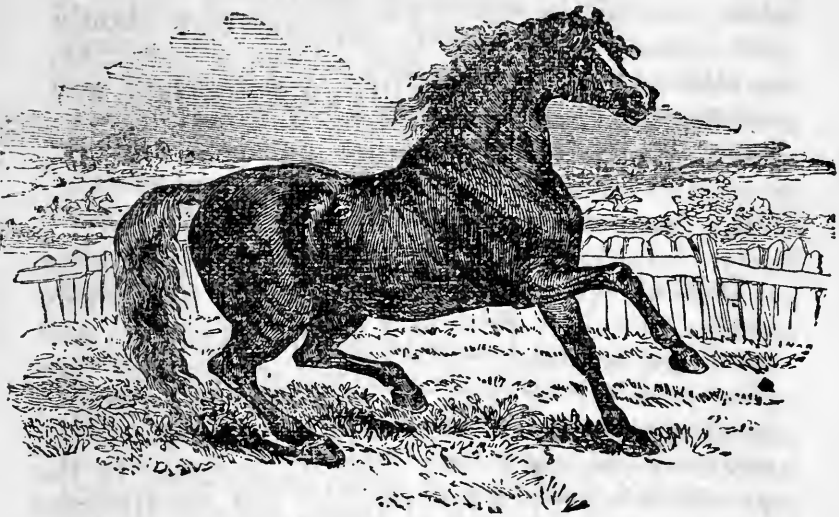
Extremes of Intelligence and Temper.

In studying animal nature, we see the more brain and less animal propensity, the more intelligence and less wildness and ferocity; and the less brain and more animal nature, the less intelligence and more tenacity of resistance—showing extremes and modifications of intelligence and character in exact accordance to the relation and strength of brain, and the different faculties by which excited and controlled.

Each type of character would seem to be an extreme or modification of this law; those of the domestic class having more brain or proportionately less of the fierce wildness and combative disposition of the wild animals.

This we see illustrated in a remarkable degree, not only in the wild and more savage of the lower animals, but in the domestic animals; showing even marked extremes in the same family. Hence, one dog is affectionate and gentle, another is surly, cross and savage. In almost every herd or group of farm animals there is one more wild or vicious than the others. One cow is more difficult to approach and milk than the others; one ox or mule is more difficult and dangerous to manage than others; and by the same law, we see there is

greater or less degrees of vitality—it being a common remark that such naturally wild and vicious animals are much more hardy and enduring than those that are not.



FIERY—NEEDS WATCHING.

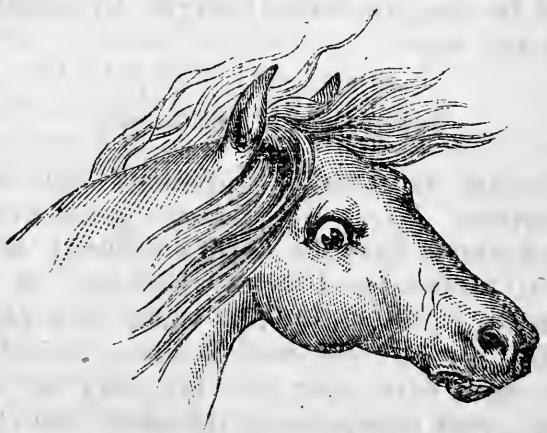
The horse is perhaps the best illustration of these characteristics. Thus we see that in proportion to the degree there is predominance or balance of animal nature, there is positiveness or not of character; and to the degree that we find sensibility and intelligence to counterbalance, or in excess of the animal nature, there will be corresponding docility and intelligence.

The Lama, (used to carry burthens over the Andes,) having but little of this coarse nature, will not bear abuse, and will lie down discouraged and die, if overloaded and not relieved. The Camel of a less sensitive type will toil patiently and nobly under the heaviest burden,

meekly submitting to any extreme of abuse. The ass, mule or ox, having a still larger modification of the combative type, are more positive and aggressive, and consequently liable to become more dangerous and difficult to manage.

The horse, (acknowledged to be the nearest correllet of man in disposition,) possesses all the modifications and extremes of disposition and muscular activity of the other animals, and is by far the most powerful, persistent and plastic of the domestic animals. Hence, we see sensibility, intelligence, courage and activity, expressive of the roving ambition and generous nobility of man's finer and purer nature.

If there is great predisposition to resistance, more VITALITY or bottom may be anticipated, and proportionately more care and energy will become necessary to win obedience and docility. This is proved not only in the horse but in the treatment of the domestic animals before named.



SENSITIVE AND FLIGHTY.

The Lama, being of a nervous temperament, with scarcely a trace of coarse animal nature, does not need the whip, and will yield obedience most readily to affectionate treatment, while those of courage and will, combat resistance, and bear and contest resistance with energy. A quick, sensitive, excitable horse will not bear rough careless treatment to the degree that a slow cold-blooded one would, and horses having large active brains will learn more easily and yield more readily to restraint than those of a sullen, mulish disposition.

Fine Blooded Horses Require More Care.

The slow, patient, dull horse may work from the start in harness kindly, while the warm blooded sensitive horse is usually nervous and excitable, and requires more care and skillful treatment to insure perfect submission to the irritation and restraint of harness or wagon; and is persistently reckless in resistance when excited by fear, or when taught to resist control in any way.

Indications of Character.

Character is usually indicated by certain peculiarities. Large size denotes great strength, and fine dense texture shows activity and capacity to endure prolonged exertion. A large, prominent, bold, eager, but mild and pleasant eye, full broad forehead, distance short from eyes to ears, ears short and tapering or active, denotes great natural docility and intelligence; while small round eyes, set well into the head,

or eye-lids heavy, forehead narrow, long from eyes to ears, ears long and flabby or drooping, indicate a mean treacherous disposition.

INTELLIGENT AND GENTLE.

DULL AND TREACHEROUS.

From these extremes modifications are unlimited, developing new phases of character that call for more or less modification of the efforts.

To the practised eye the exact type of temperament or disposition becomes instantly perceptible, by the peculiarities and expression of countenance and density of texture.

Care in Breeding.

There are many remote causes that greatly affect the character of the horse, that deserves the serious consideration of the thoughtful horseman, without an understanding of which there cannot be a correct comprehension of the subject. However apparently trifling first causes may appear in themselves, it is certain that they often lead to consequences that the most careful and thorough treatment will partially or wholly fail to overcome.

In studying causes that powerfully affect the character, by inducing derangement of the nervous system or mania: If we go to the source we must go back to the sires and the condition of the nervous system at the time they were brought together. It is an inviolate law of nature that like produces like. It is evident, therefore, that to raise good horses, good horses must be bred from. This is not only true regarding size, form, soundness, and density of texture, but in disposition. As much care should be taken in the selection of horses for good disposition, as for size, symmetry, action and strong circulation. It is also undoubtedly true that the condition of the nervous system at the time of connection, and the condition in

which the mare is kept during gestation, has a powerful effect upon the character of the colt. If the horse is of the most gentle character, if mad when used to the mare, so marked is the effect of the excitement that the colt is almost sure to prove of a bad irritable temper. If the mare is subjected to a great shock of fear, or greatly abused while with foal, the colt is almost sure to show the effect by being of an extremely irritable, flighty unreliable character.

Colts Must Not be Excited.

A marked extreme of viciousness or lunacy may be produced by more direct and noticable causes. To illustrate this, I will refer to one out of many instances of this character. A three year old colt that was noted for gentleness, being raised a pet and allowed to run at large, trespassed on a neighbor's premises. Dogs, shouting, &c., had lost all effect in the efforts to keep the colt away, and from an impulse of vexation the boys tied a tin pan to the colt's tail, and then set the dogs after the animal. At first the colt did not seem to notice the pan, but when pressed by the dogs and it began to pound and rattle against the heels, alarm was excited. The most vain efforts to get away from the terrible object, by kicking and running, was resorted to, until exhausted; and the effect was so powerful upon the nervous system, that the stirring or touching of anything near, or to the hind parts, would cause the greatest fear and reckless kicking. The fear thus excited became involuntary by being thus deranged, and the colt was spoiled. No matter how excited, if greatly frightened the effect is

the same upon the nervous system. The most careless observer can scarcely fail to notice horses that are afraid of an umbrella, a robe, a top wagon, the sound of a drum, or something by which at some time suddenly excited, and getting away, the impression of fear became so strong, that the object became ever afterwards a cause of the greatest terror. Once running away, and kicking, breaking the hitching strap, or in any way resisting control successfully, leads to the habit becoming fixed.

It is the brain by which the animal understands and is animated, and it is the effects produced directly or indirectly upon the brain, by rousing the fears or passions, that excites the resistance; and the object of course must be to weaken and neutralize the effect by addressing and winning the action of the mind in the opposite direction.

Whipping Dangerous.

Though at the risk of making this paper too long, I would call attention to another point worthy of consideration. Namely, that of exciting the ill will of the animal. Many suppose they are doing finely, and are proud of their success by severe whipping, or otherwise rousing and stimulating the passions. No mistake can be greater and there is not anything that so well illustrates the genius and delicacy of the real horseman, more clearly than the care displayed in winning instead of repelling the action of the mind. If a child is whipped and scolded, and left feeling excited and mad, there is an involuntary feeling of hate inspired against the parent,

though the object of the reproof was intended for the good of the child—still the effect is depraving, because the passions only are excited. If after the reproof, the parent had taken a seat by the child, and appealed to the reason and affections, by assuring that it was a cause of the greatest regret and pain to him to be compelled to resort to reproof, that it was intended for good—and thus by a little care and attention the contrition of the heart, would be excited by a proof of kindness, and the effect would be to win the child from disobedience. The principle is precisely the same with horses, and it must not be disregarded in the management of sensitive courageous horses only at the hazard of spoiling them. The better to explain the force of this principle, I will illustrate by referring to a case of recent occurence.

I bought a fine Gifford-Morgan horse, (eight years old, a stallion,) early in the summer of '66, to train to drive without reins. The horse was naturally mild and intelligent, but possessed much latent energy. He would obey every command in driving and handling, with the most genuine pleasure and promptness of any horse I ever saw, and was as innocent in his action as a pet dog. Whip training is terribly severe, and it is impossible to make a horse reliable until absolute submission can be forced by it, which of course requires a severe use of the whip; and it has to be used with great care and judgment, in order to make the horse understand every motion of it, yet not be afraid of it. It was with the utmost reluctance that I commenced training the animal. My sympathies were most keenly touched for subjecting him to the severity of the whip, yet I

could not avoid it. I paid a large price for the horse, for this purpose, and it must be done. I made the horse a fine driver without affecting his temper in the least. My health failing I was compelled to sell the horse, with four others, all stallions also trained. The purchaser of this horse was considered a good careful man, but like the average of people he felt that he could handle or drive any horse by the simple or rude force of the whip. He whipped the horse for putting his ears back as if to bite him. Seeing the owner soon after his doing so, I warned him not to do so again, and to at once enlist the horse's confidence by giving apples, &c. This was disregarded. The whipping was repeated in a few days. As before, I strongly remonstrated, in the most positive terms, telling the man he would by a few repetitions of such treatment, excite the enmity of the animal so much that he could not do any thing with him. The result was as I predicted, that the horse became a perfect maniac within a week—so desperate that he would tear any one to pieces—one of the most desperate horses I ever saw. By a simple course of subjection I made him gentle in thirty minutes. I ordered a careful groom to take charge of him, gave the groom special directions, requiring each time he went to his stall to give him a present of an apple or something he liked. The horse remained gentle, but to this time, (two years after), the horse will not bear the presence of his owner, though gentle to others.

I have known many horses of a perfectly gentle character to be spoiled by being whipped once, and one horse that was made vicious by being struck with the whip once in stall. Could

refer to very many instances illustrative of the effects of pounding and whipping in this way. Indeed, so sensitive are some horses, (more generally mares,) that from a remembrance of man's rudeness, they will pull excitedly when driven by a man, but are as gentle and moderate as most any old horse when driven by a woman. Woman being more gentle and never using the whip severely, their control does not excite the nervous system. Sensitive horses should not be left, after exciting their anger by whip or other means, until calmed down by rubbing head and neck the way the hair lies, and giving apples, sugar, or something of which the animal is fond. The whip must be used with care, since it is only a means of reproof. Rudely and persistently used it is liable to irritate so much as to excite enmity and resistance. (See Driving.)

Courage.

Very many boast of not being afraid of any horse, &c. To a really experienced horseman such assertions show ignorance and inexperience. Very many of the most lamentable accidents that occur with horses are the result of this imprudence. It is almost impossible to convince a man who has never been run away with, that a horse could run away with him while he held the reins, or that he cannot drive a kicker safely by any care that can be used; and when such are run away with, or have a horse kick and get away, they declare and think they can drive and manage any horse but that one. A horse of course that has learned to resist the bit successfully, cannot be

held by the reins if excited; at all events the control is too limited and doubtful to be hazarded. I have found many hundreds of horses that could not be driven, and would run away regardless of the most severe bits, though pulled upon by several men. I will go farther by stating that I have seen many horses that would pull on a walk from two to four men by the reins, though tugging and pulling as they pleased. Of course it is the most senseless imprudence to try to drive and hold such horses, when there is almost certainty of being unable to resist restraint should the animal become excited.

While it is highly important to appear fearless and confident when approaching and handling horses, it is not to be assumed a horse will not kick or bite because courage is shown. An Irishman, who supposed that a horse would not dare to injure him if he would stand still and show no fear, walked into the enclosure of a vicious stallion. The horse rushed upon him, bit and struck him down, and it was with the greatest difficulty that the man was rescued, but at the cost of a broken arm and leg, and serious internal injuries. I once had to jump for my life to get away from a mare. When I saw her rush for me, saw instantly that escape was my only alternative, and not having time to jump, sprang head foremost over the high enclosure. It was a trick to defeat me, as all my would be pupils laughed, and to my surprise, for the first time saw that all were overhead, out of all possible danger. The animal, was of the most desperate and dangerous character. She would run at a man with all the ferocity of a dog, and

would have bit and trampled me under foot, could she have got to me, yet in thirty minutes I made her perfectly gentle, and safe for me or any one to approach and handle. Courage and confidence should be in proportion to the danger or safety shown.

The horse always reveals his intentions by the actions of the ears and expression of the eye, as plainly as if expressed in words. The attention should be directed to the head for an understanding of the intentions. If danger is discernible, stand still. It will not do by the expression of the features, or the falter of the voice, to show that fear is felt. When a bad horse must be encountered, especially if a stallion, the eye must be kept on that of the horse, and the *will* must be inflexible.

Adroitness and firmness in diverting attention, will hold some horses of a dangerous character in check, when the least expression of weakness would precipitate a calamity. Some horses, and especially stallions, can read the feelings as plainly as could a man, and any indication of fear would encourage them to resistance. Whatever the feelings or sense of danger, there must not be any evidence of fear or danger exposed in the language or actions. There is a nameless acuteness of perception learned by long observation, that cannot be explained, but which enables one at a glance to see how far it is safe to approach and handle horses of a dangerous character. Indeed I cannot conceive of a duty or calling that requires more acuteness of perception, or firmness in directing and controlling the efforts.

In studying the laws governing this interesting science of Equine Subjection and Edu-

cation, many striking truths are forced upon the mind. The wisdom displayed in adapting the different domestic animals for the wants and requirements of man—the ease with which they can be subdued and controlled, when subjected to reasonable treatment, and the unerring warning of accountability for every act of imprudence shown in their management, is singularly clear and positive, reminding that it is not only a duty, but economy, to correct the errors of imprudence and ignorance. This duty also appeals powerfully to the reason and all the higher faculties of the mind, thereby in its true sense, in every way, inspiring to a higher feeling of responsibility, and nobility of character.

☞The owner is at liberty if desired, to read the foregoing part to others, it not being in any way an infringement on the secresy imposed.

THE WILD COLT.

It must be borne in mind that the resistance of the colt is induced by fear and ignorance of what is required, and if of a sensitive or positive nature he will avoid and resist being handled and restrained, often with the most reckless tenacity; that when much resistance is anticipated or evinced, the first thing to be accomplished is to overcome such sensibility and resistance sufficiently to warrant being safely handled, and as each step in the education is attempted there is sufficient control to ensure safety and certainty of control. To enable such results, very often much prudence and no ordinary skill is essential, and the reader must bear in mind that this must be dependant upon the delicacy and prudence with which the efforts are adapted, in the practice of the Theory of Management taught.

The first requisite is to have a good room or training yard, of about twenty-five by thirty or forty feet. See that possible causes of injury are removed, get the colt into this room or enclosure quietly; if very wild, see that hens, chickens, etc., are driven out. Say to your friends, it is necessary to your success and a condition of your instruction to be alone.

Your first object is to halter the colt. If not very wild, you can easily work up to the shoulders and head, and by scratching the mane, etc., slip the halter on the head. But if

the colt is wild, this may be difficult if not dangerous, and one of the most important requisites is to guard against injury either to yourself or horse, and at the same time accomplish your end most easily and surely.

Take an edging or pole ten or twelve feet long, more or less, as you may happen to find, or danger may require. Whittle up a few strong chips with your knife, about an inch or two from the end, towards the center, and about seven or eight inches from this whittle up a few more chips from the opposite direction, or you can drive a couple of nails into the stick about the same distance apart, the heads bent a little outward from each other. Take a common rope halter with a running noose, pull the part that slips through the noose back about two feet. Now hang the part that goes over the head upon the chips or nails on the end of your pole nicely, with the hitching part held in your hand with the stick. Your halter is now so spread and hung upon the stick as to be easily put upon the head. If the colt is not excited he is easily attracted to the notice of whatever is new to him. He has no way of examining objects but by his nose, so he is prompted to smell and feel of things that are new and strange to him. Consequently you will find upon reaching out the halter gently, hung as above upon the end of your pole, he will reach out to smell and feel of it, and while he is gratifying his curiosity in this way, you can easily raise the stick high enough to bring the halter over and back of the ears, when by turning the stick half way round, the halter will drop from it upon the head. This may frighten the colt a little and cause him to run

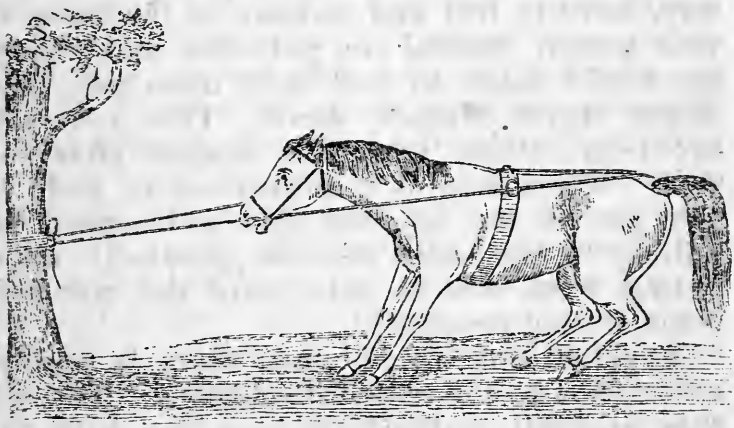
from you, but by doing so, the slack of the part passing back of the jaw through the noose will be pulled up, and the halter is on the head securely.

Having your colt haltered, your object next is to teach him to submit to its restraint. Take position on a line with the shoulders, but at some distance, and give a sharp quick pull towards you, instantly giving loose on the halter. You have the greatest advantage from this position, and by adroitly following this advantage, not attempting to pull when there is an attempt to run back or from you, he will soon by a few sharp pulls in this way, learn to feel and submit to the force of your power. Should you pull slow and steady, he would learn to pull back upon you, and might throw himself down. This you will avoid by letting loose the instant after you pull. When there is a disposition to yield to you, get on the opposite side and repeat the pulling in the same manner, gradually alternating from side to side, until the colt will come around promptly.

Avoid pulling ahead, until there is prompt submission to the restraint sideways. You can then gradually pull a little on a line with the body until the colt will follow readily.

If the colt is of a quick, prompt disposition he will soon learn to submit to the restraint of the halter; but if very young, or of a slow, sulky disposition, unaccustomed to restraint, great resistance is likely to be shown. If the resistance is determined and reckless in character, resort at once to a *thorough course of subjection*, which will soon compel obedience. When there is submission, fix it by appealing

at once to the affections. Rub the head gently the way the hair lies, and scratch the mane and tail until all excitement and irritation subsides. The eye now becomes mild in expression, and there is apparent indifference to being handled. A coarse voice forced into keen or exciting action, is wonderfully irritating, and must by all means be held in check. Speak in a natural tone, softened by a kind expression. It is often necessary when the colt acts excitable and reckless, to repeat the lesson of leading two or three times. At all events the end of perfect success must be accomplished.



Hitching.

After the colt will lead promptly, it is advisable to teach him to stand hitched. To prevent the possibility of learning to pull on the halter, take a piece of plow line or clothes line, sufficiently long when doubled to be a little shorter than the halter when hitched, tied in the following manner. Find the center, and put under the tail; bring both ends forward

over the back, twisting them three or four times; then do the same forward of the shoulders, pass them through the ring of the halter, and tie to the manger, or post; hitch in this way until there is no disposition in the colt to pull loose. It is prudent to hitch in this way for two or three days, when the simple halter can be depended upon with safety.

Teaching the colt to submit to the restraint of the bit is next in importance.

Bitting,

Implies teaching the horse to submit the mouth to the restraint of the bit, and at the same time give the neck and head as great an elevation as the form and temper will bear. Whenever the reins are pulled upon, if this is imperfectly done, the horse may acquire habits of resistance to the control of the reins, as exhibited by pulling too hard on the bit, pulling on one rein, will not back, etc.

To accomplish this end most easily and perfectly, implies a restraint that would be both flexible and positive. If the bitting is limited to the restraint of a check, there being only simple dead pressure upon the mouth, if checked up at first tightly and too long, the horse may learn the habit of resting the head upon the bit to relieve the weariness of restraint, which would possibly teach the horse to work into some one of the common habits of resistance to the control of the bit.

To do this in a simple practical manner, would seem to have been a great puzzle to even skillful observant horsemen; yet nothing can be more simple or easily done.

The first thing to be done is to accustom the mouth to the bit. To do this, put on the colt a common bridle, with a smooth snaffle bit. Omit reins. Allow him to go as he pleases, in a yard or stable, for a half an hour or more, which may be repeated if thought necessary. Next put on circingle and reins. At first let the reins be buckled so long as to bring but little restraint upon the mouth. After being on thirty or forty minutes, remove. At each repetition buckle the reins shorter, until the head is brought up as high as the form and temper will bear. It seems needless to include details of form, &c., of bitting harness. Any simple arrangement of the kind will do, and the arrangement is so well understood that an attempt to give form and proportion, would not only be unnecessary, but would not be heeded.

The object being to bring restraint upon the bit that will hold the head up and back most naturally and easily, without freedom in any direction but in that of the reins. In one respect should great care be used. Namely, in having the throat-latch so loose as not to possibly press on the throat when checked high, and that the gag runners are well up near the ears.

If the reins are buckled short at first, there is an unnatural violence of pressure and restraint upon the head, that may exite so positive a resistance as to cause the colt to rear up and fall over backwards, which would almost be certain to produce death. Again, if checked up too long the restraint becomes so tiresome as to induce a disposition of leaning or resting the head on the bit, which would very often teach the habit of lugging down upon the bit,

when pulled upon by the reins. If however, the colt should fight the restraint of the bit or check, leave it on until the fit exhausts itself, and there is a disposition to submit to its restraint.

The bitting bridle should not be left on very long at a time. Short at first and gradually longer as the mouth becomes accustomed to and hardened by the bit. Simply subjecting the mouth to a course of checking in this way, which is only dead pressure, neither teaches submission to the restraint of the bit, or gives the idea of submitting the head up and back when pulled upon by the reins, only in a very indirect manner. Hence, the disposition developed in many horses of lugging against the bit, or throwing the head down on the breast, pulling sideways, throwing the head forward, &c., some one of which peculiarities of resistance is developed to a greater or less degree on account of this rude imperfect bitting. All this trouble I easily overcame by the following treatment.

After the usual course of bitting as understood, take a piece of cord about eight or ten feet in length, of the common sash or clothes line size, but of as strong and flexible a texture as possible. Tie one end into a large, hard knot by forming a tie and putting the end through twice and draw up hard. Make another tie about twenty inches from this knot. Bring the knot end of the cord over the neck and pull the knot through the tie, regulating the size so that it will just fit the neck forward of the shoulders. Pass the other end of the cord through both rings of the bit, back of the jaw, and pass it back through the loop around

the neck, and draw down the slack. Stand in front of the head, holding the cord tightly with both hands, giving a short quick pull downwards, which will jerk the head back and up. Repeat this little downward pull until the head is given up and back freely when pulled upon even slightly. Now, when the reins are attached to the bit, when pulled upon, the restraint is precisely as before, and the head is submitted freely to their restraint.

The harness may now be put on, and the next step should be to drive the colt around until he can be guided right and left, and stopped at will. There must be no effort to make the colt back until he learns to drive well to wagon, when the lesson of backing should be taught. If the colt is made to back before learning to drive, there is danger of the habit being acquired of running back when confused.

If the colt is sensitive and it is desired to be thorough, after bitting put on the harness carefully. Tie up the tugs and let the colt stand or run about the yard for thirty or forty minutes. Now put on reins and gradually teach him to go ahead, and be controlled to the right or left, or to stop, as you please, by the restraint of the bit. Too much should not be expected of the colt at the commencement of this lesson. First gradually urge him ahead by touching the whip lightly over the hips, and as he moves turn him to the right and left, until he will move promptly, and turn in any direction freely to the control of the reins. Would then teach him to stop and start at will, by urging him ahead by a touch of the whip, and stopping him by pulling on the reins, being careful to say "get up," and "whoa," as each require-

ment of going ahead or stopping is made, until the colt learns to submit implicitly to the control of the reins, and is quite handy to drive in this way. This may require several lessons of half or three quarters of an hour each.

Hitching to Wagon.

If it is desired to drive the colt single, a sulky is to be preferred at first. The shafts should be be rattled and the colt made to see it and hear it on every side. Then bring the shafts over him gently, hold the bit by the left hand firmly, with the right draw up the wagon against the hind parts. If there is much fear manifested, jerk upon the bit sharply. As there is submission bring the shafts against the horse with more force. When there is perfect submission, attach the harness. Let him move off slowly, almost as he pleases, on a straight line. Then gradually as he will bear, learn him to go to the right and left, to the control of the reins. Great care should be taken not to drive the colt too much at first, and at no time to the extreme of exhaustion. Neither should the strength of the colt be taxed much at first by driving up and down hill. Let him move on a level road until accustomed to the noise and restraint of the wagon. It must be remembered, that the colt cannot become handy and able to stand the fatigue of much driving without time and patience. Let his drives be moderate, both in gait and distance at first. About a mile or two on a walk at first, gradually increasing the distance to as much as he will bear without fatigue. After learning to go nicely on a walk, let him trot a little,

gradually letting him out faster and a little longer, as nice smooth pieces of road give opportunity, but would be very particular to confine these little bursts of speed at first to the limits of a few rods, and never to the extent of exhaustion. Let him dash out a short distance, then gradually pull to a walk, and speak encouragingly, just as if talking to a boy. After a while let him out again, perhaps pushing a trifle faster and longer, but not to the extreme of breaking over. Do not by any means expect that you have a trotter because, perhaps, your colt is a good mover, and if a good stepper it should be additional reason for prudence. There is usually too much anxiety to try a colt's speed and bottom. He is pushed, overdone and spoiled, perhaps before he knows how to trot, or is grown to his full strength.

A colt must not be pushed too much in educating to harness. It is evident that he cannot learn to submit quietly to the irritation and excitement of harness and wagon, or drive placidly like an old horse. Rather let him grow into doing all this easily and naturally, being careful in the first place to overcome all fear of things touching or striking against the hind parts of the body. This lesson of overcoming fears of such causes, should be very thorough, and as each progressive step is attempted, see that that object is always attained and the driving will be a trifling task, though of course requiring patience and care.

Double Driving.

It is generally the custom to drive the colt at first in harness by the side of a gentle horse

accustomed to harness. When this is designed, the colt should be put on the off side, and to guard against danger, a short strap with a ring on it, should be put around the fore-foot below the fetlock. Fasten the end of a piece of rope or strap of about eight or ten feet long to the ring. Pass the other end over the belly-band of the harness to the wagon. The strap is to be held with the reins to insure the utmost control, should the colt become frightened and attempt to break away or kick. The whip should be held over the old horse, to keep him up to the movements of the colt in starting, but the gait should be kept moderate.

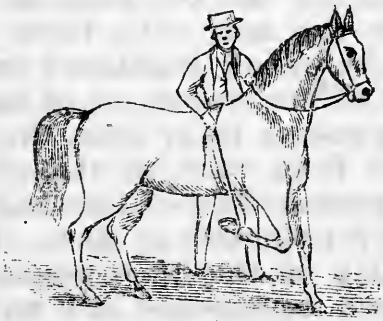
In breaking the colt to drive double, after driving well on the off side, he should be reversed to the near side, there being less danger of becoming frightened from getting into or out of the wagon, or of seeing things while being passed to or from the wagon, by being more from view on the off side. To lessen the probabilities of fear and resistance, the off side is preferable at first. The limited understanding of the horse seems to require that the same impressions and understanding should be given of the character and appearance of things forced to his attention on both sides. If not, when driven alone, or on the near side, he may become suddenly frightened by the moving of a robe, umbrella, the rustling of a lady's dress, etc., from that side. (See Causes of Fear.)

Let the driving be moderate, and the loading not heavy, and by all means if the colt is of a sensitive or nervous temperament, the greatest mildness must be observed. Loud "yelling" or cracking of whip should not be permitted.

A little imprudence of this kind is often the cause of very serious mischief with inexperienced young horses.

Backing.

After learning to drive well, teach the idea of backing by pulling on the reins steadily, saying "back." If there is resistance give a short raking pull, which will move the colt by the pain and force of the bit backward, repeating until there is prompt obedience. If there is much resistance put on breaking bit, which will soon enable submission.



Riding.

If the colt is not of a very bad character there will be no resistance to being rode after the first lesson of subjection. If there is, attach a short strap to a piece of rope to the off fore foot, throwing the other end over the back. Take a short hold of this strap with the right hand, while the left grasps the near rein of the bridle firmly. As the head is pulled around, the horse is made to step sideways, and the instant the foot is relaxed it is held up by

the restraint of the right hand on the strap, which is instantly drawn upon. The colt is now on three legs and unable to resist. Jump lightly on the back, press the feet against the belly and flanks. As there is submission given the foot, take a firm hold of the reins, which should be held short. Move the colt forward, and as there is an indication of resistance pull upon the strap and reins, which will disable and disconcert the horse from farther effort to resist being rode. If the colt will not move forward, request an assistant to lead him by the head for a short time. So long as there is any indication of resistance keep on the strap. One thorough lesson is usually sufficient, though some colts may require a repetition of the lesson.

When it is desired to mount, let the left hand rest lightly on the mane a little forward of the withers, holding the reins between the thumb and fingers. Throw the right hand lightly on the back, the body close to the horse. Now spring lightly upward and forward. The instant of doing so, let the right hand glide forward until the elbow strikes the back bone, when the weight of the body is to be instantly balanced upon the right arm, which will enable sufficient strength to make the spring continuous, and the body is easily brought into a sitting posture. This is a slight undertaking, and a little practice will enable ability to mount the highest of horses with apparently wonderful ease. To mount on a saddle, stand by the side a little back of the stirrup, the face exactly towards the horse's head. Take a short hold of the reins between the fingers, grasping into the mane at the same time, put the left foot

into the stirrup, throw the right hand over the saddle and press it against the off side, throwing the weight of the body on the left foot, and you can lift yourself into the saddle easily.

Handling the Feet.

If the colt is of an ordinary good disposition this can be done without resorting to any means. Stand well up to the shoulder, put the left hand on the shoulder, (scapula.) Press forward gently, which will relax the muscles controlling the leg, with the right instantly grasp the foot below the fetlock and lift it up, removing the left hand and bring under the foot to aid the right hand or wholly liberating the right hand. To handle the hind feet, let the right hand glide gently from the shoulders back to the hip. At the instant it passes the point of the hip bring the left forward upon the hip. While doing this the right hand is being glided down the leg gently, until it strikes the fetlock, when the left hand is pressed firmly against the body at the point stated, which will relax the limb as before, and the foot is easily brought up by the right. At the instant of raising with the right, the left is lowered and passed down the limb on the back part of the fetlock. Or the foot can be raised and lowered a few times with the right hand, while the left balances the body by pressing against the hip until there is perfect submission.

If there is resistance take up the fore-foot, request an assistant to hold it up for you while he at the same time holds the colt by the halter or bridle. Tie the end of a rope or strap around the hind foot above the fetlock, at the

instant of doing which let the hand glide along to the opposite part until six or eight feet from the foot. At the same time request the forward foot to be let loose, the assistant holding by the halter. Now pull upon the strap, which will bring the foot forward, and at the instant of attempting to kick let go, and so repeat until the foot is submitted to the restraint of strap. Then slip behind and pull the foot back, and as before, yielding at each effort to kick, let go, until the foot is submitted freely. Now take the foot from the control of the strap to the hand and handle gently.

If there is very determined resistance, tie the end of your long strap around the neck, near the shoulders, pass the other end back between the fore legs, around the hind foot, but under the strap around the neck and draw up on it, at the same time holding him by the bridle or halter. The colt may be frightened and jump to get clear of the restraint. Should he act very much frightened, slack up on the strap until the foot is almost back to its natural position. Then as he will bear, again pull a little shorter, at the same time pulling him round in a circle by the head, until he ceases struggling to get the foot loose. You may now pull the foot farther forward, and hold it as before, until he will stand quietly. Now step back a little and pass the hand down the hind leg. Slap the hand upon the leg a little until there is no resistance, then take it in the hands. If there is no resistance, undo the end of the strap and allow the foot a little more freedom; at the same time while holding the foot by the strap, pass the hand from the hip down the leg quietly, rubbing and caressing until able to take it in the hands.

Handle the opposite legs in the same manner until there is perfect submission. There is a natural tendency to do nothing more as soon as the feet can be handled, and if there is trouble to shoe afterwards it is not assigned to the real cause. It must be borne in mind, that in all cases to insure perfect submission, the feet should be repeatedly handled, in the stable or wherever kept, until there is no fear or resistance manifested. This end may not always be accomplished by handling once. The character of the colt is sometimes so sensitive and positive that as much depends upon handling a few times gently after forcing submission, as in the treatment that may be necessary at first.

Fear,

Directly or indirectly, is the principal cause of danger and resistance in horses, and to successfully educate young horses requires that there should be perpetual precaution in preventing such excitement from any cause as would induce fear of any object or sound. The horse's mind or nervous system is so liable to be thrown out of balance by sudden causes of great fear, that very much of their successful management must be dependent upon the tact or prudence of preventing such consequences. One of the most remarkable features of this peculiarity too, is the persistence there is in resisting the object or cause exciting a feeling of danger. Thus a robe, umbrella, or other object once exciting an apprehension of danger is likely to become a cause of the greatest terror. When there is the least anticipation of an exci-

table imagination, the utmost sense of control should be fixed upon the understanding, so as to lessen such a disposition, and be at the same time able to force obedience to the extreme necessary. The great difficuly in the management of horses predisposed to sensitiveness, or those becoming afraid of some object or causes with which their use requires contact is want of sufficient power to coerce. I would not imply that gentleness is not an important essential; but that it must be to the mind of the horse the actuating motive, while the fear of resistance must be so fixed upon the mind that the disposition to resist restraint is neutralized. This is the point to make first if possible, (which is seen to be now easily done.) Then gently and carefully bring to the understanding a clear conviction of the harmless character of the object or sound, whatever it is. If the colt is wild and sensitive, the first step to be taken is to subject him to a course of subjection. If the habit is established, if very bad, it becomes an absolute necessity to do so.

There is in some colts a natural predisposition to extreme sensibility and fear of the most ordinary causes of irritation. A small brain, indicated by a narrow forehead, or a clear open restless eye, indicates such predisposition.

But we see too that colts of the very best disposition are easily spoiled by ignorant imprudent treatment.

It is very remarkable too that many colts of the most sensitive and excitable character, by one or two lessons of careful thorough treatment, become as gentle and obedient as old gentle horses. I could refer to very many interesting proofs of this. One of the most

marked in my recent experience, (Oct. 1868,) to which I will refer, was a six year old horse owned by A. SMAWLEY, of Petroleum Centre, Pa. This horse was of so remarkably wild and desperate a character that he was known by the name of "Wild Pete." He would scringe and jump at the least touch or appearance of anything strange; he would not stand to be cleaned, could not be harnessed, and to attempt putting him in shafts would excite the utmost desperation, jumping, and kicking clear of restraint at all hazards. He was one of the most desperate acting horses of the kind I ever saw. Indeed; anything touching him behind, even a touch of a whip, would make him jump and kick regardless of consequences. Yet, after subjecting him to two or three energetic lessons, of less than an hour each, I could drive him to my buggy with perfect safety, and could not be made to kick or resist control. So perfectly docile did he become, that he was let for driving in the livery, and has proved a very superior, safe carriage horse. As a rule however, constitutionally timid horses yield slowly, and require careful as well as thorough treatment.

Colts of the gentlest and apparently most fearless disposition, are often made so nervous and excitable by being once greatly frightened in some way, as to become of the most nervous dangerous character, or is insane just so far as the cause and position of the excitement in the first place. This is illustrated by the number of otherwise gentle young horses that are frightened at some particular object, or cannot be driven in harness. When the cause is traced out it will be found in every instance to have been the result of being frightened or excited

from some cause. Sometimes the most trifling causes will derange the horse in this way. Even the accidental moving of a piece of white paper will sometimes so excite a previously docile colt, as to be afterwards in consequence a flighty, unreliable animal, always on the alert to jump, and possibly kick at the least appearance of such an object. Incidents of this kind are common to the observation of every one in the least observant of the peculiarities of equine nature. Now unless the colt is made perfectly obedient and docile, to bear handling and the restraint of harness, and the rattle of the wagon, this being suddenly frightened at some imaginary or trifling cause, is at any moment possible. The first object of the efforts, should be to see that every step of progress is made so thoroughly as to preclude such a possibility, which can be easily done by making the colt familiar and submissive to the restraint of the bit, and fearless of the contact and rattle of the wagon, &c., before hitching.

The great difficulty with most people is, they are too harsh and precipitate. They undertake to do, and require more than they have power to enforce, or than the horse is able to understand.

In educating the colt, the rule should be to do and require only so much as he will bear and understand, by commencing slowly, and gently repeating, and following up one advantage after another, to the end of inspiring entire disregard of the causes of excitement. The horse's principal sense of understanding is by seeing and feeling with the nose. This is his means of examining things new and strange to him. If in approaching the colt you were to reach out the hand gently, he would smell

and feel of it with his nose. Every other means of understanding seems to be subordinate to this, consequently in handling the colt we should always commence at the nose, then gradually work back as there is submission. The same care should be taken to overcome fear of being handled about the feet, etc. Commence at an insensible part and work to the sensitve. In educating to harness, the same prudence should be exercised by bringing the object to the nose, or leading the horse up to the object and allowing him to feel and examine it in his own way.

We must be satisfied with our ability to guard against and overcome these difficulties of fear as we can, or as circumstances and opportunity will offer. The great point of success is in guarding the horse from being roused to a great sense of danger from any cause, and gradually as he will bear, force the mind to an understanding of the innocent character of the object or cause of excitement. Familiarity with any kind of danger limits the sensibilities, and this should be the primary object of the efforts to do, after insuring the greatest control possible over the animal. The better to convey an understanding of my meaning I will give the details to overcome fear of the most common objects usually objectionable to horses, which will indicate the treatment for anything else not specified.

A Robe.

While held under careful restraint, let the robe be brought up gently to the colt's nose. After smelling and feeling of it in his own way until satisfied, rub it gently against the head,

neck and body the way the hair lies, as he will bear. Then stand off a little and throw it across the back, over the neck and head, gradually stepping farther, until you can throw the robe upon him as you please.

An Umbrella or Parasol.

While holding the colt by the halter or bridle, as may be necessary, bring the umbrella to his nose gently, rub it against the head, neck and body, and as he will bear, spreading it a little, repeating the process of rubbing, and so continue gaining little by little, until you can raise the umbrella over the head, and pass it around the animal as you please, without exciting resistance.

Sound of a Gun.

First, commence by snapping caps a short distance from the horse, gradually, as he will bear, approaching nearer, until you can snap caps while the gun is resting upon the back, over the head, etc. Then put in a little powder, and at each repetition increase the charge until you can fire off a heavy load without exciting fear.

Railroad Cars.

Let the animal see them at rest, then gradually lead or drive him up to them, even to smelling them with his nose. Now, as you have an opportunity, drive the horse around while they are moving, working up nearer as you can, and at the same time turning him

around so that he can see and hear them from different directions. This lesson should be often repeated, being careful not to crowd beyond what the colt will easily bear, until they cease to attract his serious attention.

Objects Exciting Fear While Riding or Driving.

Should the horse show fear of a stone or stump, or anything of the kind, he will naturally stop instantly and stare at the object in the most excited manner. Should the cause of fear be great and sudden, he may attempt to turn round and run away. This is to be guarded against, by sitting well forward on the seat, and taking a short hold of the reins, at the same time speaking calmly and encouragingly to the horse. Bear in mind, the horse has a great advantage over you, that his excitement is liable to precipitate his whole strength against you at the least sense of freedom, or additional cause of excitement; that once resisting in this position, he will try to do so again at all hazards, under like circumstances.

Speak encouragingly to the horse, but keep a close watch upon his actions. In a short time the tension of his alarm will not only be perceptibly relieved, but he will become calmer and almost disregard the object. Then drive nearer as he will bear, exercising the same patience and care. At each effort to get nearer, the horse will become apparently as much frightened as at first. But keep pushing a little at a time in this way, as the horse will bear, until you can drive up to the object or by it, and you not only leave no bad impression

upon the mind, but gradually overcome the disposition to become frightened.

Sometimes a horse will dislike a wheelbarrow, baby wagon, turkeys, etc., but the treatment is the same. When the excitement is not so great as to endanger successful resistance, and the horse is disposed "play off or soldier," it may be advisable to apply the whip a little sharply, but this is to be avoided when it is seen the resistance is wholly induced by fear, and the animal is not lazy.

Some horses while driven to carriages, will not bear the noise and excitement of other horses being driven up behind. This is principally on account of the horse's inability to see and understand the cause of the excitement, or it may be owing to the fault of the driver. Some one drives up rapidly behind, perhaps wishes to "go by," to prevent which the colt is hallooed at and whipped up to prevent such a result. This may be repeated a few times, and the consequence is, if a spirited horse, the habit is acquired of rushing ahead to avoid the punishment expected under such circumstances, and very often too a horse is forced into this habit by being run into from behind.

Blinders.

It must be rememberd that the blinders in general use so cover up the eyes as to make it impossible to see things plainly sidewwise, and wholly so from behind, must tend to this result, and certainly we are convinced of this, when we see that to overcome the animal's fear of any object, the first and most obvious point is to induce an understanding of its appearance

and character. Blinders are admissible only when there is a desire to conceal the defects of a large head, and to cause a naturally lazy horse to drive steadily, by preventing his ability to see when the whip is about to be applied.

Must See the Object from Different Positions.

It is one of the peculiarities of the horse to understand and be reconciled to an object or cause of excitement only from the position and circumstances brought to his notice. This seems to be on account of the horse's reasoning powers being so limited, as to be unable to retain the same understanding of the object beyond the position from which it is brought to notice.

Every progressive change of position requiring almost the same care and patience of that preceding. For example, if in teaching a horse to become regardless of an umbrella, it were shown only from the near side, upon carrying it to the off side, would inspire nearly as much fear as at first from the near side, or there may be an aversion to some particular object, or resistance may be inspired only under certain circumstances. You may succeed in getting a colt gentle to be rode from the near side, but upon attempting to do so from the off side, would in all probability be resisted. A gentle horse upon being hitched to a top buggy for the first time, upon getting a glimpse of the top over the blinders, became so alarmed as to defy all control, kicked clear of the carriage and ran away, was, as usual, gentle and fearless to an open buggy, but would not bear a top. A fine young stallion, perfectly regardless of

a locomotive, and apparently of everything else, was so frightened by the sound and appearance of an engine suddenly from behind, which was a position he never saw it from before, that he kicked himself clear of the wagon and got away, and would thereafter not only kick in harness upon hearing the least rattle or unusual sound, but would not bear a locomotive. The impulse of fear first induced by the engine prompted the kicking, which brought the feet in contact with the cross-piece of the shaft, which increased his terror, and associating thereby the wagon with the engine, its rattling nose became a cause of equal repugnance as that of the engine or cars.

A high-spirited but gentle mare was taken to a smith shop. The smith struck her sharply with his hammer two or three times, for not standing and submitting the foot to his satisfaction, which so frightened the mare that she would not bear any one having a leathern apron on to go near her, or allow her feet to be handled. Have frequently found instances of horses being gentle single, but vicious and unmanageable double; and gentle double, but not single, etc.

These peculiarities imply the necessity, as experience proves, of forcing an understanding of the object from every side, and in every manner it is usually seen in use.

If, for instance, a horse is afraid of an umbrella while in harness, he may be taught to care nothing about it out of harness, but if not taught to feel and understand its character in harness would be apt to be as much frightened at it in that position, as if he knew nothing about it.

This seems to puzzle many well-meaning men, and is often the cause of much disappointment.

A horse that is afraid of an umbrella, is brought forward to illustrate the management of such habits. In a short time the horse will bear the umbrella over and around him in any manner, without seeming to care anything about it. The owner is pleased with the belief that his horse is broken, when in harness at some future time, he raises an umbrella behind the animal, and is astonished to find him almost as bad as ever, and he naturally condemns the instructions as of no account, and indeed this would seem to be correct. But when it is seen in the first place that it is often necessary to repeat the treatment, that expecting the animal to be broken of the habit by a single indirect lesson, only tends to defeat success. For without ability to control the horse, every attempt to force upon him the object of aversion, only inspires greater resistance, because taught to a still greater degree to resist control, and a sense of freedom always tends to increase the animal's fear of the object. Now the efforts of the owner to control the horse directly in a position of so great disadvantage, may produce exactly this result, and then from an ignorance of the cause of failure, it is believed impossible to make the horse gentle.

The lesson must be repeated so long as may be necessary to the end of perfect success, or the horse once excited is liable to drift back to being almost as bad as at first.

There is a very serious misconception of the theory of overcoming fear. The common belief is that a horse will not care about an object after he is once made to understand its

harmless nature. This was the understanding taught by Rarey, and this is the idea prevalent among those who would be authority on the subject. If this were true, after a horse was once reconciled to an object of fear, and submitted its presence over and around him, he would not care anything about it afterwards. But everyday experience proves this reasoning to be fallacious. In the first place we see that a horse that would not care anything about an object or sound, after being worked hard, would be likely after a few days or weeks of idleness to be extremely excitable and dangerous. Now, according to such a theory, the horse after being once made to understand the innocent character of the object, he would care nothing more about it; yet we see the horse does not prove reliable, and is not in fact of the same character after a period of idleness.

These facts must be kept in mind. The attention should always be on the alert to the degree there is discovered predisposition to excitement and fear.

Safety Shafts.

Get three scantlings or poles of good tough timber of about four inches in diameter, and fourteen feet in length each. Put down two of these, so as to bring them two feet apart at one end and thirteen at the other. Now lay the other pole across on the ends of the others widest apart, about six inches from the ends. Mark and halve them together. Then bore a hole through both pieces at each corner so fitted, and bolt them firmly together. To fix the other ends, get a piece of tire iron, four

feet long, and bend it in the form of a breast collar, the rounding side in, so as to have each end extend back on the inside of the poles ten or twelve inches, and fit up nicely to the wood; have two holes punced or drilled through each end of the iron, by which to bolt it firmly to the poles. Then drive staples into or near the ends.

To finish the other ends, take two pieces of iron about a foot each in length and an inch in diameter, flat one end and punch through two holes. Work down the other ends to a sharp point; bend down the ends so sharpened about six inches, in the form of a half circle; bolt these irons under the ends of the poles, the sharp ends pointing down and back, forming dogs, something like those on the ends of sleigh runners, to prevent the sleigh running back. Now harness your horse into this arrangement, taking the precaution to wind the irons across the ends with an old piece of cloth, and strengthening the harness if at all likely to break, by tying a piece of rope around with a piece of breeching, and around the body as may be thought necessary. Though perhaps, the best way to hold the shafts, as we call them, nicely up to the neck, is by bringing a strong rope or strap over the neck, and fastening around the iron near the wood. This is a very good means by which to drive unmanageable horses towards such causes of fear as cars, &c. Hitch the horse into the shafts, let the reins run back through the lugs. Get behind and drive around, touching up with the whip, as may be necessary. If the horse is valuable, and it is desired to take unusual precaution in overcoming fear of cars, or any

other greatly exciting cause to drive up to or by, the shafts are good. It is impossible for the horse to run back or sideways, or rear over back. The horse is almost helpless so far as being able to run back or sideways.

Running Away.

This habit may be induced by a great variety of causes—principally by becoming frightened in some way, though often by the horse learning to pull against the bits so hard as to defy control, and is therefore at the least cause of irritation made to pull ahead and run away. When actuated by fear, the resistance is usually so sudden and violent as to force a degree of resistance to the restraint of the bit there is not power to prevent or control. Sometimes, too, the horse will spring sideways, or turn around in doing this, and will so learn the trick that at the least appearance of danger there is a jump for a run. All this resistance it is seen results from defective training of the mouth, and is virtually surmounted when able to force so great a degree of control by the bit as to break up all disposition to resist restraint when excited. The use of the four ring bit will usually enable driving the horse safely. If the animal is of a bad character, put through a course of subjection, until the sense of fear is overcome—at the same time see that the control of the mouth is made sufficiently positive to ensure certainty of restraint by the reins. Then hitch to wagon, making the horse stop repeatedly and promptly to the least restraint of the reins, until there is no disposition to resist when subjected to the greatest excite-

ment. It is presumed the reader understands this treatment sufficiently to make an explanation of details needless.

Turning Around.

If the horse turns around, drive first with harness, whip up sharply, then make stop, always pulling in the opposite direction from that the horse usually turns, until there is not only the most prompt obedience to the commands in going ahead, but the head is submitted readily right or left, or stop, as may be required. Sometimes the habit is contracted of pulling so hard on the bit as to resist control. In this case all that is necessary to do is to train the mouth once or twice with breaking bit, or use four ring bit, and the habit will be broken up. If one rein is *pulled upon*, pull sharply on the opposite rein, and repeating at each indication of such a purpose, until the head is yielded freely and evenly.

In reviewing the common causes of this habit, we see that two objects must govern the efforts. *First:* To overcome or neutralize the exciting cause of resistance, usually some cause of fear. *Second:* To make the mouth perfectly submissive to the most delicate restraint of the bit. It being essential that the exciting cause should be removed, while the power to control resistance must be increased.

I will in this connection add, that there is no part of the training of horses which should be done more thoroughly, or tested more carefully than this of teaching a proper submission of the mouth to the bit. Yet I will venture to assert none is more imperfectly or ignorantly at-

tempted, and that the more experienced and intelligent of horsemen should regard doing this difficult, when there is so much to indicate to the most ordinary observer the method of doing it with ease and certainty, seems strange. And yet perhaps, this is not so strange, since this has been very much of a puzzle to do easily, and really in its true aspect shows more true science than can be illustrated in any other feature of my treatment, since upon this must depend ultimately the readiness and success with which the horse can be guided and controlled in harness.

It is essential in training a horse well to the bit, that the idea is given correctly of submitting the head up and back when pulled upon. Second, that the horse should be made to understand exactly the meaning of every signal of guidance and restraint. In training the mouth, the exact idea can be conveyed by being particular in repeating the same idea of reproof, by pulling sharply whenever there is an intention of pulling hard. There is soon not only prompt obedience to restraint of the bit, but there is no intention or confidence to resist control. Now, how can a horse understand the object of such restraint, if there is not uniformity of action and language. Yet most people talk with their horses in the most careless manner. If there is an intention of approaching a horse, the usual word is whoa. In driving when it is desired to make the horse go slow, whoa is the usual word, and the consequence is the animal does not know what is meant by whoa. Every action and word should have a special meaning, and they should never conflict, that the understanding may not be confused.

Whoa should be an imperative command to stop. To go slower requires the use of some other word. Even every motion of the whip should have a special meaning. If the horse is managed with care in this way, he becomes almost a machine, that yields submission to the slightest touch or word of command.

Running Back.

To break up this habit, there must be established a thorough fear of the whip, so as to induce going ahead when commanded. Put on harness, and tie the tugs into the rings of the breeching rather short. Drive around with the reins, giving a sharp cut with a good bow whip around the legs once in a while, if not prompt. As the horse learns to spring ahead when commanded, pull a little on the lines, gradually repeating, until he will pull quite hard on the bit to go ahead. Make this as thorough as possible. In driving, repeat and carry out this, going ahead promptly, whipping up sharply once in a while if necessary.

The main point to make with horses of this character, is to create a thorough fear of the whip. To do this well while driving with harness, whip around the hind legs sharply, until the horse will spring ahead promptly when commanded. Now, attach to wagon and gradually work up with whip until there is prompt obedience. The foot strap may be put on if there is any possible danger of the horse running back when hitched. A much surer though more complicated way, is to use the safety shafts.

Kicking in Harness.

This is apparently the most dangerous and difficult habit to overcome to which horses are subject; yet it is a habit that yields readily to my treatment, but requires care and thoroughness, and a large share of common sense in determining how much must be done, and when to stop. This cannot be learned by any fixed rule, since there is such a great difference of extreme shown in this habit, that it is not safe to venture a limit of what and how much must be done. I have often broken horses of kicking, of apparently the worst character, in twenty or thirty minutes. Then again, one scarcely confirmed in the habit may require very much more time, and a few extreme cases, of apparently a mild character when not excited, that would call out all my resources for hours, to make the subject yield safely to control. I broke a horse in Maine of the worst character, of kicking, by a few pulls upon the war bridle. At all events, the owner informed me months afterwards, that the animal remained perfectly docile. This horse would kick at any one or any thing. On the contrary, I found a horse in Mississippi, perfectly gentle to ride or handle, would only kick when to wagon, yet was the most terribly persistent to kick when in harness, I ever saw, or ever expect to see. All ordinary treatment was only as play to this horse. Circumstances made it necessary to break up the habit, and I felt compelled to do so, and succeeded only after three lessons. Never did a horse resist more bravely, but I succeeded in making the animal so gentle as to submit the wagon against the heels going down

hill, and was driven by me a week after being broken, in the presence of a large concourse of people, proving safe and gentle afterwards.

Breaking of kicking, as with most other habits, requires being thorough in what is attempted. If there is more fear than willfulness, the fear must be thoroughly overcome. If based upon willfulness, that must be mastered at any hazard. In either case, put through a careful but thorough course of subjection, exciting resistance by rubbing a stick of some kind against and between the legs until there is no resistance; now put on harness and breaking bit, compel perfect submission to its restraint. Let the hind legs be touched as before, and at each indication of resistance, punish sharply; with the reins back the animal against a rail fence or anything convenient. If there is perfect submission back into to the shafts of the wagon, or bring the shafts over the back gently. This is a step requiring much delicacy and firmness. Stand at the left shoulder, grasping the rein near the bit firmly, and as the shafts are brought forward, and the cross-piece comes in contact with the legs, if there is much sensibility shown, give him a sharp quick jerk upon the reins, which will at once disconcert the horse, and at the same time throw the head so high as to make it difficult for him to kick. Force this point well, until the contact of the wagon is borne, when the harness may be attached. Now drive around gently, stopping and starting repeatedly, which will enable an understanding of what the horse will bear. If there is no indication of serious resistance, follow up by driving around, until there is perfect submission. At each repetition of be-

ing hitched to a wagon for a few days, let the horse be backed against the cross-piece until it is borne.

This precaution of testing repeatedly is absolutely essential, to prevent and overcome any growing sensibility or confidence that would excite kicking, until there is not discovered any disposition to persist in the habit.

If this will not do, repeat the lesson of subjection which the reader has been shown, and if there is any doubt about submitting to the shafts without danger of an accident, get two poles about twelve feet each in length. Lay them down on the ground so that the small ends will be about twenty-two inches apart, and the large ends are six or seven feet apart. Next get a piece of pole of the same size, lay across and tie firmly to the side poles just far enough from the forward ends so when the horse is hitched in, the tugs are tied to this cross-piece with pieces of cord. Hitch to this, dive around, repeatedly stopping and backing the horse against the cross-piece, until there is perfect submission. This driving in poles may be repeated if thought necessary, remembering that it is absolutely necessary to make every step sure before the next is attempfed.

A great advantage of repeating the lesson is, that the sensibility of the mouth is so greatly increased, that the most plucky horse will scarcely dare resist the bit after being punished severely a few times. If the horse yields, but is doubtful or appears touchy and sensitive once in a while, you may be able to make your point by putting on the foot strap, as directed under that head.

It must be borne in mind that much depends

in making subjection thorough, as in the peculiarity of treatment, that no matter how good or proper the treatment, the horse must be made to yield unconditionally, or failure is not only probable, but almost certain.

If however, the horse will not yield to this treatment, it will be necessary to resort to more complicated and slower treatment, by which to counteract resistance, with more severe reproof.

Kicking Straps.

To do this, have made four straps, like common hame straps. Two long enough to buckle around the hind legs above the gambrels; and two a little shorter, so as to be in proportion to buckle around just below the gambrel. The straps should be an inch and a quarter wide, good thick leather, and the buckles should be heavy. Now have made two D's just twice as long as the straps are wide. This D should have the straight part a little rounding, and the corners not quite to a sharp point. Put a long and short strap on each D, and buckle them around the hind legs of the horse. The long strap above and the short one below the gambrel, bringing the D in front of the leg. These we designate KICKING STRAPS.

Put a strong well-fitting rope halter on the head, tie a strong two inch ring on the end of the hitching part, which should be of a length to extend between the fore-legs, over and just back of the belly band. Then take a piece of strong manilla rope, long enough to extend from the ring on the end of the halter back to each hind leg. Pass the end of this through the ring to the center, and tie each end care-

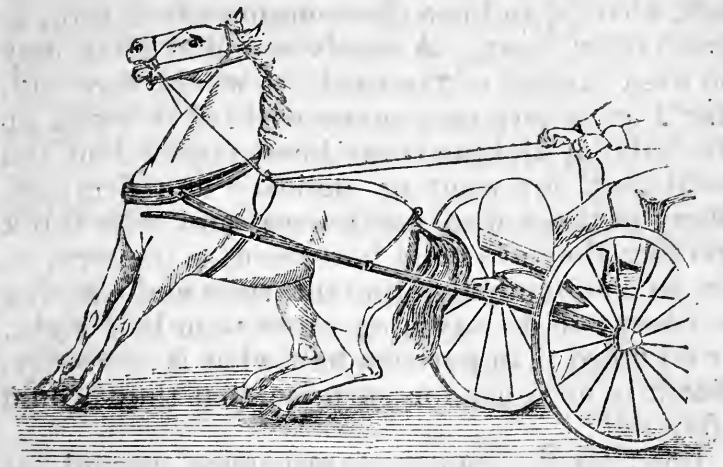
fully into the D's on the straps, the whole so arranged in length that the horse can travel easily and naturally. Now as soon as the horse kicks, the most severe punishment must result upon the nose. No quarter is to be given until there is perfect submission. The harness may be put on after the horse ceases kicking, and drive around as before. These straps should be kept on until there is no disposition to kick.

If the mouth is hard, use breaking bit and force as before, with the reins, until there is perfect submission. The horse is to be treated with the utmost kindness when he yields. *Bear in mind this rule must not be disregarded* of addressing and winning the co-operation of the affections as soon as there is submission. The foot strap may be used as a precaution when hitched to wagon, until submission is made sure.

If the mouth is naturally sensitive and the horse is docile, but quick and irritable, a different policy must be adopted, as the horse may drive gently for hours or even days, and yet may kick at a real or fancied cause of annoyance. The previous treatment would not work well with such, as they soon become cautious by throwing the head down when there is such an intention, and there is not persistence enough to make reproof sufficiently positive to prevent the habit.

The OVERDRAW CHECK will now be just the thing. But care must be taken to apply it right, or there will be cause for disappointment in its use. The object is now to simply disable the horse from his purpose at the least attempt to kick, which we can easily do, especially while

in single harness. Probably the best way to do this, is as follows:



Get a small steel bit and hang it loosely above the driving bit in the bridle. Put the bridle on the head, now provide yourself with a fine, strong piece of hemp or cotton cord, about three-eighths of an inch in diameter and sixteen feet in length. Cotton plow line is just the thing, or that kept at hardware stores for hanging windows, will do. Put the center of this cord back of the ears, run the ends back through the rings of the small bit and through the gag runners, which should be close up to the ears, (see cut). Pass them now through the terrets and back through a ring which must be attached as far back upon the crouper as possible, and attach the ends to the shafts on each side of the hips. At first this check should be drawn short to bring the head as high as the horse can bear. The head is now not only high, but the least effort to kick must disable from such a purpose by drawing the check tighter, thereby disabling

the horse from his purpose. As there is less disposition manifested to kick, give more freedom to the head. When the animal proves safe, change and use the common check rein, at first rather short. A nicely rounded strap may be used instead of the cord. I would here add, that I am aware very many will fail to break up the habit of kicking if the horse is confident and persistent, for want of delicacy and firmness. Many of those who use horses, and who think too that they are good horsemen, as the term is, are so confoundedly ignorant, rude and wanting in energy to do anything more than half right, or do more than perhaps half what is necessary, that it is no cause for surprise that they would often fail.

Look for the cause of resistance, second for the type of disposition, and try to make the treatment such as will prevent and overcome the habit in the most direct and positive manner, always striving to be cool and careful. Treat the horse *kindly, even with marked proofs of affection*, as soon as there is submission.

Kicking While Harnessing.

Put on the war bridle (small loop), and work up with it sharply right and left a few times, then pull down tight, and tie into a half hitch. While holding the cord in the left hand, step back and pass the hand from the shoulders to the hind parts gently. If this is borne, take the harness in the right hand and work it back gently over the back. As this is borne, untie the cord and tie down, so as to give the mouth a little more freedom. Now go back and handle as before, being careful to be gentle; if

there is resistance, punish sharply, tie down short again, and put the harness on. When there is submission, untie, then work back as before; at the least indication of resistance, tremble on the cord until the horse will bear the harness while free from restraint.

Kicking While Grooming.

Some horses are so thin-skinned, that they can scarcely bear a currycomb on the flanks or legs, and when excited by rough treatment and too severe use of the currycomb, are easily made vicious to handle or groom. Put on the war bridle, and after working up with it, hold tightly and with the left hand use the currycomb on the back, gradually work to the sensitive part; as there is submission give a little more freedom to the mouth, and work back lightly. If the horse seems unable to bear the currycomb, use the brush instead, and that, if necessary, lightly. Work lightly and indirectly to the sensitive part, at the same time speaking gently. It is almost impossible to overcome this habit if there is not gentleness.

The currycomb is used too much by most grooms. A sharp toothed, brass currycomb *must not be used* on a thin-skinned horse; use a brush. I should want a horse to kick a man out of the stall who would use a currycomb with needless severity, or be otherwise needlessly harsh.

Kicking while Shoeing.

Some horses have a peculiar aversion to having their feet handled, and if once aroused to resistance, from any cause, are apt to become

pretty determined in their habit. If the foot is pulled away when taken up, or the horse is excited and injured in some way while the foot is held, the fear of injury is produced and associated with the requirement, which by the usual pulling, hauling and kicking practices of the shop, makes the horse worse. The least intimation of ability to resist after being taken in hand, always inspires the horse to renewed confidence and resistance, and if there is not ability or perseverance enough to enforce perfect submission, after trying to do so, the horse is only made more determined in the habit. As the object is to break up the habit, the energies must be concentrated as directly and forcibly as possible; until the horse is so disconcerted and shaken in the confidence of his powers of resistance, as to yield to restraint and submit the feet as required, when submission must be made permanent by patient, gentle treatment. If only a little irritable and resists being shod, put on the war bridle drawn tight, and tie in a half hitch. The foot can now be handled. Untie in a few minutes, and let the cord be pulled upon a little when disposed to resist, which will distract the attention and cause submission. If the resistance is determined, take up the fore foot and have held by an assistant; tie the end of the long web around the hind foot above the fetlock. This done, request the assistant to let go the foot and hold by the head, while standing opposite the shoulder pull upon the strap until the foot is brought well forward, giving loose the instant there is an effort to jerk or kick. Repeat pulling and letting go, until submitted freely. Now step directly behind and pull back, giving as before, until submissive; then bring

the web over the back around across the breast, pulling short enough to bring the foot well forward; pass the end back under the part over the back, and pull tight.

Let the assistant now grasp the web, holding firmly as ever, with the left hand holding the head by the bridle. This brings the leg forward, when it can be handled at will. If this will not do, tie the end of the web or rope around the neck near the shoulders, in the form of a running noose; pass the other end back between the fore legs, around the hind leg, below the fetlock and back through the loop, round the neck, drawing it through short enough to bring the foot well forward. Pass the end back under to prevent sliding, and retain in the hand. The horse will now be very likely to struggle to get the foot loose. Should his resistance be so great as to endanger injury, you can give loose on the end of the strap. When the horse ceases trying to get the foot loose, rest the left hand upon the hip, with the right pull upon the foot forward and outward. If there is great resistance, pull around by the head, which will enable you to keep in such limits as you wish. When the struggle ceases, go back and handle as before. When the foot is submitted to the hand, while held to the restraint of the strap, put the cord well back upon the neck, draw it down tightly, and tie it into a half hitch. Then pull upon the foot with the hand as before. If not resisted, untie the strap and take the foot in hand gently. Put it down and take it up, rubbing and handling until there is entire submission. Then carry it back with the right hand, keeping well forward out of danger, by resting the left hand upon the hip, and pulling and

yielding to the foot until manageable. Now pass the left hand down the inside of the leg, take it from the right and carry it back gently; put it down and take it up once or twice. Hammer upon it lightly, gradually increasing, until the foot is submitted as required. Now untie the cord and tie it a little longer; go back and handle the foot as before. If submitted, untie the cord, holding the end in the left hand, and handle as before. If there is an intimation of resistance, tremble on the cord, which will keep attention on the mouth, and remind of the previous control until the foot is submitted without restraint. Manage the other hind foot in the same manner, if necessary. The feet of such horses should be taken up and pounded upon repeatedly in the stable, until submission becomes habitual. It must be borne in mind that the smith shop is no place to more than prevent resistance while shoeing, and it must be expected that a very bad horse of this character will not be made more than temporarily submissive by the treatment usually necessary to enable handling the feet to be shod. Indeed such efforts are well calculated to excite aversion to a shop and being shod, and hence a horse of courage and sensibility is liable to be confirmed in the resistance by such temporary treatment.

Let the horse be handled thoroughly at home, and if necessary put through a course of subjection, handling the feet repeatedly until perfectly gentle. When taken to the shop, if necessary, simply remind that submission must be yielded and treat gently—caressing, and rubbing head and neck the way the hair lies. Colts should not be taken to a shop to be shod until thoroughly accustomed to have the feet handled.

Balking.

This habit is caused by confusing and overloading, or trying to force too much by whipping when exhausted, or when the draught from some cause becomes too great for the horse to manage, thereby exciting and discouraging the horse before able to settle down to a steady determined pull. When a horse, and especially a young one, becomes mad and will not pull when commanded, there should not be a word or an action that would betray an understanding of the resistance. Change position—take up time in some way by fixing the harness or walking around, whistling or singing, if in the mood. There must not be any appearance of anger. Give the horse time to get over the irritation and become willing to use his strength against the collar. Any characteristic of wilfulness denotes spirit and sensibility, consequently not disposed to submit to being rudely and injudiciously forced in harness. If double, get both horses to start evenly. This can be done best, and greatly lesson the weight of the load in starting, by standing directly in front of both horses, catching the bits with the hands. Now move the horses gently to the right or left until the wheel almost strikes the side of the wagon—giving them time to become steady. When you see they are ready, speak with a cheerful, encouraging voice, "come boys." If this precaution is taken, there will be no further trouble; but bear in mind that the horses must not now be permitted to go to the limit of their strength. While they are still pulling with energy, at the first favorable place stop them. After ample time to recuperate, speak to them gently to go.

It seems to be natural for a horse to go ahead and draw all he can, and it is only when confused, excited and abused by the most unreasonable imprudence and abuse that the disposition is excited to balk. When once the habit is learned, it is liable at any moment to be persisted in if excited or much force is used.

If there is any treatment to which horses are subject in educating to harness that is unreasonable, and needlessly harsh, and should be corrected, it is this of pounding of whipping to make them go, when perhaps the animal is confused and discouraged, and not in a condition to make much of an effort.

The first and most fatal cause of this perplexing habit is the common practice of harnessing horses, and attempting to drive them, and make them draw heavy loads before the mouth is even trained to submit to the guidance or restraint of the bit. I get out of all patience with men who say they are good horsemen, pride themselves for perhaps owning many horses, and always having more or less to do with them, who talk and act as if all that is necessary to do is to whip the animal through at all hazards. If this would make the horse go when commenced, it would be pardonable; but when it is known, or ought to be, that whipping in harness if there is not certainty of forcing obedience, is just what should not be done. The paliative treatment of patience and means of encouragement if there is not a knowledge of proper treatment, should be adopted. It is only reasonable that the horse should resist and become fixed in the habit when needlessly excited and abused.

The whip is too irritating, without enabling

sufficient power to force obedience, and as the will is stimulated to increased positiveness and sensibility it becomes blunted in proportion to the degree the blood is warmed, this advantage of force by the whip decreases, while the resistance is increased—hence is often a direct cause of failure.

If the whip is to be depended upon, the horse should be driven around with harness, when it should be made to crack keenly around the hind legs the instant after "get up" is spoken, until the horse learns to spring ahead when commanded. When there is perfect obedience attach to wagon and move gently, stopping and starting often, until obedience becomes habitual. To prevent this habit the colt should be driven around with harness, touching up with the whip, until the idea of starting at the touch of the whip, and guiding and submitting to the bit becomes prompt and habitual. Then drive slow and gently for some time after being attached to wagon.

If the habit is learned, and especially in single harness, it is usually more resistance to the bit than collar, and if the horse is young will yield readily to simple treatment. Put through a careful but thorough course of subjection. Then put on harness and breaking bit. Drive around, whipping sharply the instant the horse does not start when commanded, guiding right and left, and stopping to the control of the bit. If there is a habit of LUNGING AHEAD regardless of the bit, or will not stand as desired when hitched, be positive and thorough in requiring instant obedience to the command whoa. Drive around until there is perfect obedience. Then hitch to wagon, gently start and stop the

horse repeatedly, gradually becoming positive and commanding in action, until the obedience is made certain. The lesson of driving to harness should be repeated if there is any disposition to resist. But if the resistance is so positive that this treatment will not do, try the war bridle, pulling right and left, until the horse yields promptly to least restraint upon the head. There must be kindness and flattery for every act of obedience, and the most positive reproof at each effort of resistance. But too much regard cannot be paid to the value of affectionate treatment when there is obedience. Talk kindly, give apples, oats or anything the horse likes.

Kindness.

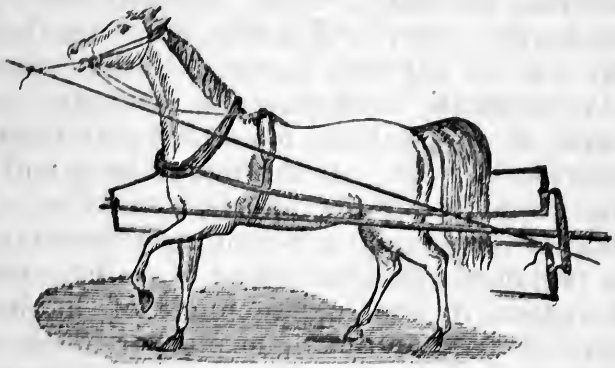
The impression of kind treatment gradually showing and encouraging the animal to yield obedience is certainly very effective, when carried out well in practice. During my early experience I traded horses very often. In this way I became the owner of a pony mare eight years old. She proved balky, and on inquiry learned that she had been traded round for years, and had been owned by nearly all the sharp jockeys in the country—being entirely unmanageable. She would neither go down hill or move on a level in harness. Neighbors advised to prosecute for imposing upon me with such a good-for-nothing animal. Making it a rule not to find fault if cheated, I declared myself satisfied and concluded to try what I could do with her. I first filled my pockets with apples, led the mare to a secluded piece of smooth, slighly descend-road, hauling the buggy by hand. Hitched her

to buggy, did not urge her to go, read a paper the better to show indifference.

After a while she started on a run. To try to make her go slow by pulling would be equivalent to making her stop, and so let her go until she wore off the sharp edge of her ambition. I now gradually pulled her back as I could see she would bear, when I reached a descending piece of ground, made her stop, got out of wagon, talked gently, gave her an apple, then moved forward a little, saying "come Jennie," (her name) gave her another apple, rubbing the head as before, and so repeated for about half an hour. Then would get into the buggy and make her start, after going a few feet or rods making her stop, but always getting out and rewarding her with an apple. The result was, that Jennie soon not only would start and stop when commanded, but became anxious to obey me. Drove her home; treated her with the utmost kindness; next day hitched her up gently, made her start and stop a few times before getting into the buggy; got into the buggy; soon made her stop, but rewarded as before. The result was that I soon could depend upon her starting and stopping when commanded. Of course I carried this treatment from a descending road to an ascending grade, learning the mare gradually to use her strength. The result was that she became one of the most willing and pleasant little drawing animals I ever owned. Sold her in a few weeks. She became the property of a rough bad man to horses, who by needless abuse made her balk on his way home, and became spoiled. This mare was of a sanguine nervous temperament, natually willing to do all she could when shown, and

treated kindly, but would not bear whipping and abuse. Her will was so strong that she would stand bravely, regardless of the most severe whipping. I struck her with a whip but once when she threw herself down in the harness. There cannot be too much care and patience with young horses that are learning to drive. If a little stubborn, putting through a short course of subjection and teaching to move forward as before explained, will soon enable perfect submission. If however, the habit is thoroughly formed, it must be counteracted by direct means. To do this best, hitch the balker by the side of a gentle horse. Attach a strong piece of cord in the form of a crouper, under the tail of the balker, bring forward through the terret and tie to the hame ring of the gentle horse, just short enough to give freedom so long as the horses are even, but the instant there is a disposition to refuse, the whole power of the gentle horse is brought to bear upon the tail, which will cause the horse to jump forward instantly. Stop and start repeatedly, until there is no disposition to refuse moving forward when commanded. Should pulling on the tail irritate and cause kicking, at once remove the cord; tie the end of the hair into a knot; tie the cord to the hair by this knot. Bring forward between the legs and attach the cord to the hame ring or collar of the gentle horse, as before. The restraint is now on the tail lengthwise, which has a remarkably disconcerting influence, with great power to force the horse forward when the gentle horse starts. If this should fail there is but one more resource left, which I can here describe, but which is very effective and valuable if properly applied.

Put the war bridle on; bring the part over the neck forward to the ears; now jerk sideways and ahead, and finally ahead as there is submission, until there is prompt obedience in coming ahead when pulled upon. Hitch to wagon by the side of a true horse. Have prepared a smooth stiff pole about the length of the wagon tongue. Bore a hole a few inches from the large end, and about a foot or more forward of the head bore another. Lay this pole over that of the wagon, the end over that of the true horse's whiffletree, and tie firmly



on top with a piece of cord. Now step forward and tie a piece of small rope from one hame ring to the other of the horses, under the pole, so as to be just taut when in position. Pass another piece of the same sized cord around the pole and tie it into the true horse's hame ring short enough to hold the pole in the center. Tie the cord on the head now to the pole through the hole, just long enough to give freedom, so long as the horses keep even; but as soon as there is refusal to go, the strength of the true horse is brought by the pole on the head, which will compel going ahead, (see cut.)

Start and stop the horses often, until obedience is secured. This pole may be used so long as there is any disposition to balk.

The horse should not be required at first to use the strength in drawing. Let this be required gradually, as there is obedience and willingness inspired to work. It is a grave fault to try to make the horse work immediately. This must not be attempted. First, create a willingness to start when commanded, then gradually put in loading until it becomes habituaal to draw when commanded. I am aware very many will have much trouble, and may wholly fail with horses of this character. It is presumed that there is tact and intelligence enough to appreciate and understand the necessity of being patient, prudent and thorough in adapting the efforts skillfully. Those who will not or have not mind enough to feel the responsibility and value of being governed by reason in the management of habits, not only of this type but of any other, must expect a possibility, with some very bad horses, of failure.

A very good way to work a single balker, is to drive first by the side of a gentle horse with the pole, then hitch to single wagon, using two small poles instead of reins to the bit. Now, if the horse does not move promptly when commanded, a little push on the poles will cause him to start, and soon cause prompt obedience. But I would remind again that patience, delicacy and skill in carrying out the principles taught, is the primary and grand essential to insure success. I would therefore remind, that to illustrate the full value of my theory, it is indispensible that all the firmness,

skill and patience possible should be used in directing and controlling the efforts, since without the relation of the efforts is made reasonably right, the advantage may be so far neutralized as to prevent success.

Kicking In Stall.

This is one of those habits that requires penetration of observance and care in guarding against danger. Let the horse know by some signal or command, of your presence and intention to approach. Many horses of the gentlest character would kick if approached suddenly and unexpectedly; and again, many horses that are gentle but a little peevish, will not bear being approached without a little care in attracting attention. The motion of the ears and lips, and expression of the eye will always notify of danger. And here let me warn the reader that however careful he may be in not going too near the horse, there must not be a semblance of fear shown in language or actions. The commands must be low and positive, indicating power. If the horse will not move round and seem to be distracted from a positive intention, stand still, and if the animal does not yield, walk off, carelessly whistling, in such a way that the horse does not see that you feel defeated.

If you have attention, repeat the words "get around, or over," with a positiveness that must be obeyed, looking at the eye as if you could and would crush all opposition. When you see the horse shrink from your gaze, glide in to the shoulder, before the mind can be made to act, and the next instant let the left hand be passed

along the neck and down the head to the nose-piece of the halter and you are safe, as the horse cannot now kick, strike or bite you. I have repeatedly got to the shoulder of horses in this way that would kick and strike the stall just after I passed, yet not be struck; it is a feat, however, that must not be attempted unless necessary. In going out, the rule is the same—pull the head towards you, looking at the eye sternly; this will throw the quarters from you, and at the instant you let go, glide out and you are safe.

If the horse is dangerous, the safest and best course is to put on the war bridle and make him feel your power by a few sharp jerks of it. Lead the animal into the stall, then step back opposite the hips and say, "get around." If there is not prompt obedience, give a sharp jerk, which will throw the hind part from you. Repeat this, and in a short time the horse will learn to step around promptly when commanded, and allow being approached. If the horse is persistant leave the cord on, the small loop being left larger and passed above the noose-piece or through the rings of the halter. As you now step out, retain the cord in the hand and hang or tie the end to a nail on the post, leaving sufficient length to permit the horse entire freedom to the halter. Now when you desire to go into the stall, if the horse does not step round when commanded, untie or unhook the end of the cord and give a jerk upon it, which will bring the animal to his senses. Leaving this on a few days, caressing and giving presents of sugar, apples, or anything of which the horse is fond, will soon not only break up the confidence, but so enlist the attention

that your approach will be looked for and invited to approach by stepping round, and endeavoring to reach around for the present.

I would here remind, that there are very many men who are not fit to have anything to do with a sensitive, well-bred horse. They are either so coarse and harsh as to excite resentment and hate, and so dull and ignorant that they cannot or will not see that they must both conceal fear and avoid danger. They will not do either. They abuse and show so much fear as both to excite and encourage resistance, and without the genius or tact to correct the cause of mischief, they attribute all the trouble to the natural viciousness of the animal.

I would caution also against teasing horses in the stall, or while cleaning, by pinching, pricking or whipping, to show up, as the term is. Gentlemen who own fine horses should be very particular about this, and a man who would in any way persist in such treatment, or in any manner excite resistance by annoying or abusive treatment, should be at once discharged, whatever his other qualifications.

Pulling on Halter.

It is the disposition of the horse to persist in what he learns, and this is remarkably so where the habit is one of resistance to the restraint of the halter or bit. If the halter strap is broken once or twice, there is a determined purpose to pull loose at all hazard when hitched. This is sometimes only in the place the habit has been learned. Thus a horse learns to pull loose in the stall, he will resist being hitched in stall, but will submit to be hitched anywhere else;

or the horse has learned to pull loose in the street and resists there, but will submit and not pull in stall. This habit is taught either by being tied by the halter before knowing or being taught to submit to being tied, or accidentally breaking the tying strap. If from the first cause the animal becomes frightened, pulls, and if successful in breaking loose, the habit is established; or the halter strap is so weak that the least jerk upon it causes it to break and the habit becomes fixed. As prevention is much better and cheaper than cure, and if the horse should be trained to submit to the restraint of the halter, or the hitching straps should be strong enough not to give way, even though pulled upon severely.

To break up the habit, get a strong half inch cord sixteen feet in length; put the center under the tail like a crouper; twist them a few times as you bring them forward over the back; pass forward on each side of the neck, through the halter ring and tie to the post or manger same as a halter; excite by any means that will make the horse pull until the habit is overcome. To insure safety, would hitch so for a few days, or so long as there is any predisposition to pull on the halter. Same treatment for pulling on the bridle.

Biting and Striking.

There are many habits which to break up successfully requires not only good judgment, but the highest order of nerve, and this is not only one, but one that requires the highest order of this fitness. The least want of watchfulness will encourage this propensity, and however thorough the training, if there is not

this care the horse will be encouraged to become aggressive, and once allowed to do so successfully the point gained is lost. Hence the necessity of being able to see the intention at a glance, and disconcert the mind from its purpose before being fully developed. The horse must be made to yield the most perfect submission. If a stallion this is an absolute necessity. If the war bridle will not enable this, put through a course of subjection, and follow up with either four ring bit or war bridle, punishing sharply. In approaching afterwards, speak sharply "get round!" or any signal that will attract attention. Let the left hand be put on the shoulder, (near side,) glide it up the neck to the head, then down to the nose-piece of the halter. If there is an attempt to bite now, the hand is carried up before the head and held out of reach, while you can keep the head from you with the greatest ease.

An old horse subject to this habit must be watched closely. So long as there is disposition to bite, the horse must not be regarded safe. Carelessness and timidity, especially if subjected to harsh treatment, may be regarded as the primary cause. Have known horses to become inveterate biters by being whipped once or twice.

A gentleman informed me lately that a horse he lately owned became perfectly vicious by being struck once with the whip in stall. He was, up to that time, as gentle as any horse could be. One of the most vicious horses I ever handled of this character, was made so by being whipped once severely. He jumped at his owner and would have killed him if not driven off with clubs. He had run

in his stall seven months, and would jump at any one with the ferocity of a desperate dog. I made him gentle in less than twenty minutes, and he remained of a good character afterwards. If the horse is young and thoroughly treated, there will be but little trouble in reforming the animal. If old and bad there is no hope of success, unless there is unusual nerve, and genius to make every move just right, and follow up the treatment until the mind relaxes from the purpose, and the affections are won. The habit is clearly a mania when once thoroughly learned.

If the horse is allowed to bite without instant and positive reproof, after training, no matter how thorough the training, the predisposition will be again so strongly developed as to make the animal watch for an opportunity to bite. After forcing obedience, encourage every act of docility. Be continually on the watch for danger and punish energetically for aggression, but immediately encourage obedience by kind affectionate treatment.

Cribbing.

Cribbing, so far as we are able to learn or judge, is a habit. There may be constitutionally predisposing causes, but it is certain whatever the pretentions of any one, I have never been given any proof of ability to break up the habit with medicine. Horses will not crib on anything that is lower than the knees. Hence the treatment of tearing away the manger and feeding on the floor, or in a basket. Sometimes sawing between the teeth will stop the habit.

There is but one practical plan of breaking up this habit, and the success of that will depend very much upon the skill displayed in making the adjustment.

The act of cribbing induces considerable contraction of the muscles of the neck. The larynx is forced down much beyond its natural position. This then is the key through which we must act. Have the throat-latch of the halter hang on a line with the top of the head to the junction of the neck with the head. Take a piece of strap, (good firm leather), about five inches in length, and as wide as the throat-latch. Drive ten ounce tacks in a row along the center of this strap, three eighths of an inch apart. File the points sharp and of an equal length. Lay this strap on the inside of the throat-latch where it crosses the larynx, wind a piece of waxed thread around both, at the center and ends of the short strap. Buckle the throat-latch just long enough so that it will not touch the neck when eating or drinking, but will press sharply at the least attempt to crib. The result is that at every attempt to crib the tacks will stick into the neck, which will hurt and disconcert the horse from the purpose of doing so.

The point of success will really depend upon the perfection and care with which this is kept adjusted. If there is large muscular development on the neck or thick necked, the strap must be buckled shorter than when the neck is well cut out, as it is termed. Make the reproof severe at first. Then keep it so as to touch sharply when a repetition is attempted. If the throat-latch is not on a line with the top of the head, the tacks will rest against and cut

the jaw, a little below the junction of the head with the neck. If this is kept on a few days or weeks, and then put on carelessly or taken off, there is likely to be failure; for if the horse finds he can crib once after this is put on without hurting himself, he will try to repeat the effort at all hazards, and will punish himself severely to do so. But if punished at first and kept where it will sting at the least attempt, it will be likely to cure the habit. It is to be kept on from a few weeks to as many months, according to the age and persistence of the habit.

Getting Cast in Stall.

Drive a staple into a beam, or the floor directly over the horse's head, as he stands in the stall, to which attach a strap or piece of small rope of sufficient length to extend within fifteen inches of the floor. Before retiring for the night, attach the other end of the cord or strap to the top of the halter, making it just long enough to allow the horse to put his nose to the floor. Being now unable to get the top of his head to the floor, he is prevented from rolling.

Putting the Tongue out of the Mouth.

Have fitted a piece of thin sheet iron, about two and a half inches wide, and five inches long, with the ends made rounding, and the edges filed smooth. Drill two small holes about half an inch apart near the each edge at the center. Fasten it through these holes on top of the bit with a piece of small annealed wire. Shorten the cheek pieces of the bridle, so that the bit is

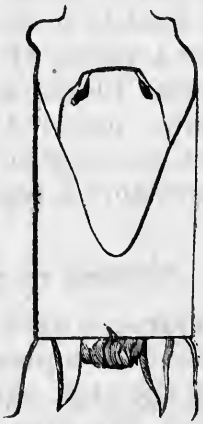
drawn well up in the mouth. This piece of iron is now over the tongue, making it impossible for the horse to get the tongue over the bit. Keep this on the bit for two or three weeks, when the horse will become habituated to carrying the tongue under the bit and keeping it in the mouth. The tongue is sometimes, but not often put out under the bit, which will show a confirmed persistence in the habit, and is sometimes impossible to prevent. The following treatment will work admirably in most cases, and is the only treatment worth explaining.

Get three middling sized bullets and hammer them out to about an inch and a half in length. Drill a little hole through the end of each. Tie one to the center of the bit by a little piece of wire through the joint. Attach the others to the bit about an inch from the center, (one on each side), so as to play loosely. When the bit is now in the mouth, these extra arrangements will so disconcert the horse that in his struggles to get them out of the way, he will forget to put the tongue out.

Jumping Over Fences.

Many farmers assert that this alone is worth the entire expense of the lesson. Certainly if this will prove so valuable, the instruction on Taming and Changing Habits must be invaluable. If a horse or mule, put on a halter that fits well to the head—a five ring halter is best. Next find a piece of thin leather, (an old boot leg will do) about as long as the head, and from four to five inches wider than the head is at the eyes. Form it same as cut, with a string attached at each corner. Attach the upper cor-

ners by the strings to the halter where the brow-piece is attached to the cheek-piece. Tie the cords attached to the lower corners back of the jaw, (being careful to leave just freedom enough to masticate easily.) Let the ends now pass over the throat-latch, and make fast. The horse is simply disabled from looking ahead; can look sideways and back, but cannot look ahead or over the nose forward, which will disconcert sufficiently to prevent the animal not only jumping, but throwing the fence down. If an ox or



cow, attach the upper corners to the horns, and pass the strings around the neck instead of over the throat-latch. I find that cows will not attempt to jump after this has been used two or three weeks. Horses and mules a much longer time, and in some cases must be used for months. Of course farmers should keep fences in good repair to keep stock from being tempted to jump them. It is fallacy to suppose that means however valuable can be wholly relied upon for success, so long as the cause is permitted to continue. The leather should be at least four inches

wider than the head at the eyes, but five or more will be much better. This will bring the leather outside of the eyes when on from two to three inches, and around the side of the face to prevent working over the nose. There may be failure with this, but if properly applied exceptions will be rare, as it has proved so far almost infallible.

Pawing in Stall.

Get a piece of chain about ten inches in length—run a short strap through one of the end links, and buckle it around the foot above the fetlock; or a piece of light chain can be fastened to a small block, and attach it to the foot in the same manner. When the horse attempts to paw, the clog or chain rattles against the foot, and prevents a repetition of the practice.

Kicking on Stall.

The same treatment used for preventing pawing may be used; or a piece of plank may be attached across the stall over the hips about an inch higher than the hips. At each effort to kick now, the hind part will strike this plank and prevent ability to do so. If the kicking is with one foot against side of stall, attach some brush to the side of the stall, or hang down loosely over the part kicked at.

Pulling too Hard on Bit, Turning Around while Driving, or Running Back.

Sufficiently explained in the article on Running Away; which, with the illustration given in teaching, will enable sufficient knowledge of the treatment necessary.

Kicking Cows.

Put on the war bridle, (small loop) and pull a few times right and left, then go back gently and attempt to milk. On the least resistance, hold with the bridle and punish sharply, so repeating as may be necessary until the cow learns to stand quietly and becomes afraid to kick. Effectual in every instance.

Of course due attention must be given to the condition of the animal. Sometimes the teats are sore, and the pain caused by milking is very severe. Scolding, kicking or pounding with the stool should not be permitted, as it only increases the mischief it is desired to avert. One or two lessons has proved effectual in every instance used.

War Bridle.

This is simply a fine threaded cotton cord of the best material, twisted hard, of about three-eighths of an inch in diameter, and twelve or fourteen feet long. Tie each end into a hard knot, just as you would do to prevent its raveling, with the difference of putting the end through the tie twice. Then pull down tight and hard close to the end. Now tie another knot about twelve inches from the end, but before drawing it tight, put the end through. This will make a loop that will not slip or draw through. The great simplicity of this form of knot, with the ease with which it can be untied, gives it preference to me over all other forms of knot I have ever used, and is, in my judgment, the best form of knot, all things considered, to be recommended for general use. The peculiar

power this means of control enables upon the mouth, is liable to cause accident, when used upon a quick, sensitive horse or green colt, with too much energy in such a manner as to bring the restraint directly back upon the mouth, which would in many cases cause the horse to rear up and possibly fall over backward upon the head. Of course a horse is liable to get killed by such an accident, and must and should be guarded against. This loop should be just large enough to go over the lower jaw, back of the bridle teeth of the horse it is intended to be used upon. The other end can now be formed into another loop in the same manner, with the difference of being large enough to go over the head and fit tightly around the neck near the shoulder.

Applying the War Bridle.

There are two ways of applying and using the war bridle:

1st. While standing forward of the shoulders on the near side of the horse, throw the small loop over the neck and take in the left hand. Then with the right put the large loop through from the top side. Now pass the left hand forward to the mouth, adroitly spreading the loop in the same position over the thumb, second, third and fourth fingers; at the same time the right hand is to be passed under the neck, around the head, upon the nose, which is to be grasped gently but firmly, while the loop is put over the jaw back of the bridle teeth with the left.

By standing near the shoulder and giving a sharp pull, you will find the horse will come to you easily, by repeating which the horse will

soon learn to follow. This is a powerful means of controlling by the head; is particularly valuable in teaching to lead, and control the head, for forcing in bridling, harnessing, grooming, or even in shoeing, if simply a little irritable. Drawing down tightly and tying into a half hitch, will sometimes have a powerful effect. It is not however to be regarded as an infallible means, but is a really good simple means of restraint, and must be used with care. When the horse is of a stubborn positive character, especially if unbroke it will be found that there will not always be sufficient power to force obedience with it, though in the majority of cases it will be found to enable very fine results.

2d. Take the large loop between both hands, and while standing directly in front of the horse, slide it over his head well back upon the neck, about where the collar rests. The loop should be made in size to fit tightly around this part of the neck. Now put the other end down between the loop and neck. Put the loop this forms into his mouth back of the bridle teeth, then draw down upon the end until the slack is taken up. This method of using the war bridle, enables more power sideways than that of the first, but does not like the first enable any power to pull ahead.

Four Ring Bit.

This means of controlling by the head enables great power. The knowledge of its use alone if properly applied, is worth the expense of the lesson and book.

Get a short snaffle bit, (steel is best). Heat one of the rings and slip over it two-inch and a half rings, (common malleable rings found in harness shops will do,) then bend the ring into form. You have now a common snaffle bit,

with two rings on the mouth-piece, (see cut.) Buckle into a common bridle. Get made next two straps, one two foot in length and three-quarters of an inch wide, made like a hame strap; the other about three feet in length, narrower and lighter. Run the short strap through both rings and buckle double, in the form of a nose-piece, buckling just long enough to fit around the nose closely. Bring the long strap around the short one at the center, pass up and through a little loop left in the bridle between the ears and buckle, just short enough to let the nose-piece come straight across the nose. It will now be found by standing in front of the horse, putting both thumbs through the rings and giving a little jerk down and backwards, that the head will be thrown up and back easily. The stop across the nose acting as the fulcrum when the rings on the end of the bit are pulled upon, the two inside rings slide towards the center forcing the joint upwards against the roof of the mouth, which causes so much pain that the horse will not try to resist after being pulled upon a few times. By tying the end of a small cord around the near ring of the bit, then pass the other end behind the jaw through the other ring, then

over the neck and down between the cord and jaw, (let the part over the neck be set well back). Now, by pulling sideways upon the cord, the horse will be found to yield very promptly to its restraint. As a driving bit this is very powerful. After being pulled upon a few times, there are but few horses that will try to resist it. It overcomes pulling on one rein or throwing the nose upon the breast. The effect of this bit on some horses is very great. It does not cut or make the mouth sore like other bits, and would be specially valuable on horses that pull hard and get the mouth sore, as it does not touch the lower jaw, yet forces perfect submission.

Foot Strap.

Any piece of strap or rope of about twelve or fourteen feet in length, simply tied around the fore-foot in most any manner, will answer on an emergency. But as simply tying or knotting around the foot is objectionable on account of the danger of chafing and preventing circulation, or possibly untying at some critical moment. When necessary to use a foot-strap much, it should be specially adapted for the purpose by making as follows: Have a smooth strap made, about twelve inches long and an inch wide, with a buckle on one end and buckle holes punched in the other. About one inch from the buckle should be fitted, under the lap passing around the buckle, a ring or D stitched in nicely. The edges of this trap should be dressed down smooth; or much better, cover the part coming in contact with the foot with a piece of soft leather. This strap is intended to buckle around the foot below the

fetlock. Into the ring fasten the end of a strap or web fourteen feet long and an inch and a half wide.

Buckle the short strap around the near fore-foot below the fetlock, then pass the long strap over the belly-band on the near side back to the wagon, and hold as a rein. This gives control of the foot at will, by which the horse can be disabled and disconcerted instantly, while driving. If the horse attempts to kick, simply pulling the foot up throws him off his balance. He can neither kick or run back, and if he attempts to go ahead it must be on three legs, in a manner that makes resistance quite limited. It is especially valuable when training colts to drive, by neutralizing the animal's power to resist, should he become frightened and attempt to kick or back. The foot-strap is also valuable as a means of enabling control of horses that will not submit to being rode, and is very effective.

Trotting.

Though not an object of my instruction, there is so much interest of late in trotting, and there is such a general anxiety to make every promising colt a fast trotter, that such simple explanations as may be necessary to aid those who are not familiar with the management of horses, how to develop and grow young horses into the trotting gait becomes important, since to sell for a good price, there must be good speed in the trot. Hence, my farmer friends look with pride on promising "steppers," and I desire at least to include such hints as will prevent spoiling such colts in an attempt to train them to a fast trotting gait.

The first object should be to make the colt gentle and fearless—next to train the mouth carefully. Commence by putting on a smooth snaffle bit, gradually checking short as the horse becomes accustomed to it and will bear restraint; giving two or three lessons in teaching submission to flexible restraint, as explained in the article on Bitting. Drive now slowly and gently in harness until the colt learns to submit to and be guided by the bit. If you take much pride in the colt, let the lessons be slow and careful. The point of driving in harness accomplished, attach to a sulky or the shafts and fore wheels of a buggy and drive around on a walk. When there is perfect submission to this, and the same delicacy of submission is retained to the restraint of the bit, repeat the driving, now riding—but as before, on a walk. A good walking gait should be the foundation of the training. Continue this walking lesson until the colt is thoroughly gentle and submissive, and has learned to walk with energy. Now gradually let out on a moderate trot, holding up often, gradually letting out a little faster, as the strength and education will bear, but never so as to cause fatigue. Those muscles that are brought most into use are most largely developed, and bear in mind also that a colt has neither the strength or bottom of an old horse, to bear either much exertion, or to be pushed in his gait, and can not at once act the part of a fast going, well trained horse.

Let this jogging be continued, gradually as there is ambition and the road is smooth and decending; but let out only so fast, or to the point that the gait is held even and square; and at first should be held only a short distance,

after which pull back to a walk and speak encouragingly. This is to be repeated, gradually going a little faster, but never to the point of exhaustion, always encouraging with a kind word or two after doing well. I would here caution against hitching the colt to a heavy wagon or sulky. The weight must be reduced as much as possible, and the better to facilitate the object, always let the bursts of speed be on a smooth slightly decending piece of road. By this precaution you will remove all drag, and the horse is able to use all his powers to the best possible advantage.

During the driving particular attention should be given to the training of the mouth. Learn the horse to pull steadily and firmly on the bit, yet come back easily at a signal, or when the pressure is increased. A horse wastes power to the degree he pulls on the bit more than is necessary to be guided and held steady in his gait. Second, the freedom of the larynx is so lessened by pulling hard as to make breathing difficult. Third, the bit is your only resource by which to stop the animal in case of an accident, and the control must be easy and positive or there is danger of the horse running away when greatly excited. Yet it will not do to make the mouth sore, or jerk severely with a harsh bit, as this would make the horse unwilling to pull at all, and he would be afraid to go fast, fearing the severity of being jerked.

This is a point, to overcome successfully that seems to baffle really able trotting trainers, and indeed, as I before asserted, one that puzzles the most skillful horsemen in the country. They permit the horse as he becomes warmed to pull with energy. The habit grows upon

the animal, to the verge of pulling as much as a strong man can well hold, and at the least accident the increased excitement increases the resistance to the bit so much as to make it impossible for the driver, even though able to use his utmost strength, to pull the horse up; and as a consequence is almost free to run away, and liable to do so when greatly excited. Being allowed to pull hard on the bit also endangers a fast stepper to run sideways, and permitted to do so once, there will be a strong predisposition to the habit. Thus an otherwise incomparable horse is made so unreliable as to be rendered almost valueless.

It is often a cause of no ordinary astonishment to even critical horsemen to see with what ease I can make horses of known bad character in resisting the strain of the bit and running away, submit to the most gentle pull of the reins, though subjected to great excitement—and it is a cause of as much surprise to me that horsemen of experience should make so much of a blunder in trying to do what is so simple and easy, or attach so little importance to a feature of training, upon the success of which the control of the horse and the safety of his use must so largely depend.

This is the more important in educating to trot, since fast trotting necessitates so much freedom as to call out all the energies, almost to the verge of running away — hence the necessity of so training the mouth that it can be held sufficiently passive to ensure certainty of controlling the actions at will, when even subjected to the greatest excitement and freedom. These results can now be easily prevented by a little care.

It is natural for a horse to resist the bit at first, and the greater the speed the more this disposition is increased, to the extreme of pulling more if permitted to use his strength against the bit, than a strong man could neutralize and restrain with reins. In view of these facts and the horse being very much a creature of habit, it is highly important that the impression is correctly taught from the first to yield obedience to the bit, and that this point is retained at all hazards during every progressive step of the education in speeding.

This should commence with the first lesson of Driving in Harness. First, when moving on a slow walk, call "whoa." Not being obeyed, give a little raking pull, which will cause the horse to stop. This is to be repeated until the colt will stop instantly at the command whoa. Now increase the gait, when it will be found the same force will have to be repeated, but to a less extent. When obedient on a fast *walk*, touch up to a trot, and do the same when obedient on a fast trot, and the same on a run. All this should be done slowly. The colt should be encouraged by caressing and kind words when he does well, and by all means the instant there is a pull on the reins forcing the horse to stop instantly, slack up on the reins, so that there is no pressure felt upon the mouth. Taught to stop instantly when commanded, commence again on a walk, urging up, and soon after learning the colt to come back to a light pull on the bit. Of course in doing this, as at first the pull must be quick and raking, but less severe, which is to be gradually toned down, until only a gentle but firm pressure is necessary. Great care must

be taken not to excite the colt now, as this would destroy sensibility so much in the mouth as to necessitate severity of force that would bruise or cut the mouth. Let the horse grow into the habit slowly and but little force will be necessary; for, though you accomplish your object by force that excites, when you attempt to renew the lesson you will find the mouth will be so tender, in consequence of the soreness thus caused, that the horse cannot press against the bit at all, or but little. He becomes excited and jerks, afraid of the bit and does not know what to do. As in stopping increase the speed to a trot, and gradually increase that to a run, slowly learning the horse to yield to the pressure of the bit or stop, until the same obedience is secured on a fast trot or run. This lesson should be carefully repeated. When hitched to wagon or sulky it will be found that the resistance will be greatly increased. The lesson in consequence must be commenced on a walk, and gradually carried step after step to a fast gait. As the horse becomes accustomed to harness and to driving, this vigilance and care must be continued until the obedience to the command and restraint is made certain and easy. This it will be found will require more or less continuous training. The nice point in doing this is to gage the pressure to the point desired. When greater than this, relieve by an inclination of the raking movement, and if there is disregard of the command and warning, use more severity at once.

If the pull is permitted to become heavy, by permitting freedom to do so, as the gait increases, the habit will become permanent. This is what must now be guarded against by

checking at once (as shown) any disposition to pull too hard. If there is resistance in any way check it immediately. This point must be attended to carefully if the horse is ambitious. This careful driving and gradually learning the animal to push forward when commanded is to be continued, but however promising, the fault should not be hazarded of trotting a race, or a long distance, before the system is thoroughly matured and hardened to bear prolonged exertion. The gait of many fine trotters is ruined by too much haste and harshness in training. A horse has not his growth until five years old, and should not be put to severe work before six or seven years old. It is proved by experience that much greater age is necessary to attain great speed. Flora Temple made her fastest time of two minutes nineteen seconds and three-quarters, when she was fifteen years old, at Kalamazoo. Dexter is constantly increasing his speed, we are informed, by age and practice; and so it will be found with all the best trotters. They were grown into great speed by careful, persevering work, by which the system is highly developed, the muscles are strengthened and hardened, and useless foul matter that would obstruct the freedom of the heart and lungs, and increase the weight, is removed.

Should the horse break when pushed in his gait, he should not be pulled up too suddenly, which would slacken his speed. Rather encourage him to go faster, and by gently and firmly pulling right and left bringing him to trot. The horse has now no disposition to resist control, and he must be taught to rely with confi-

dence, as well as yield submission to the restraint of the bit.

But there are many promising steppers that will break and run, and will not come down to work again, when much excited; and unless there is power to prevent such a habit and force on the trot, the horse cannot be relied upon in a race, at perhaps the very instant pushing is necessary. There is not power to do this by the bit, and consequently horses that step freely in private become foolish and unreliable when urged in company with other horses. There is but one way of overcoming this trouble, and that is by the use of the following means, the conception of which has been original with myself, and brought to the notice of trainers by me for several years, and has proved in skillful hands a valuable adjunct, to the end of making flighty, nervous horses come down to fast reliable going.

One gentleman in Ohio, two years since, came one hundred and fifty miles to get this treatment of me, and in three months afterwards he informed me that he had since sold a mare for fifteen hundred dollars which he had bought for three hundred and seventy-five dollars. She would break when in the least excited, and could be made nothing of, though a fast stepper. He bought her, made the experiment, and in less than a month had her down fine, and could hold her under the whip regardless of yelling and the excitement of competing horses. This gentlemen informed me he then had a horse that promised equally good results by this treatment.

To make this and use: Have made first four straps long enough to go around the hind legs

above the hocks, and from three-quarters to an inch wide. Find next two D's or rings, in size to admit two each of these straps to be run through. Step in front of each hind leg and buckle these straps around the leg, one above and one below the gambrel, the ring or D in front, bringing the straps to an acute angle. Put on the head a light well fitting halter. Attach a strap to this, which must be in part double to regulate the angle, which must be long enough to extend from the head to the back edge of the girt. On the end is to be attached a small, nice, easy running pulley, fitted to run a half inch cord. The strap is to pass back from the halter, between the legs, over the bellyband, just back of which must come this pulley. Find next a piece of firm, hard cotton or hemp cord, from three-eighths to half an inch in size. Run it through the pulley to the center, and tie the ends into the D's or rings attached to the hind legs; the whole to be so regulated in length that the horse can walk or trot easily. One leg going forward to the degree that the opposite one goes back, bringing no restraint on the cord or head, but the instant both feet go back as in the act of running, the cord is shortened, the head is drawn back, and the horse is taught that he is helpless. He soon learns this and becomes afraid to break, though subjected to any reasonable excitement.—With this "rig" on, move the horse on a walk until accustomed to it, which will usually require but a very short time. Then let out on a moderate trot, and when thoroughly accustomed to it pushing to a fast gait. This must be repeated. In fact this arrangement should be kept on until the horse is made reliant.

Should be driven and thoroughly practiced with other horses, and excitement made as if in a race. Of course all this requires ingenuity, patience and care.

This will work best on some horses by attaching to the collar, or around the neck. The restraint is simply more positive by this change. There should be good understanding with the horse, as this will prevent much nervousness and excitement. Hence there must be care in using the whip, or in punishing. The horse must be made to understand, by motions, actions and language, exactly what he is required to do; and in order to inspire his confidence, and obey readily, there must be care in not saying or doing anything that will confuse or excite. All needless jerking, whipping and yelling, must be guarded against, unless so far as it is designed to familiarize to noise and excitement. I saw a man driving a pair of oxen lately, who screeched at the top of his voice, "gee, haw, there," and whipped at the same time. Here was confused contradiction. The best intellect in the world could not obey such a command, and the best trained oxen would be confused by such senseless driving. Horses cannot understand language only as taught, and they cannot do but one thing at a time. Let the commands be dictated by judgment, at least with some show of patience and reason. To fit a horse for a race requires experience and skill, that can only be acquired by years of practice and experience. The better to give an understanding of the necessary routine for this purpose, I annex the treatment practiced by racing owners, as given by the celebrated trotting trainer, HIRAM WOODRUFF, lately published in *Wilkes' Spirit*

For the first week or ten days there is to be no fast work at all; but at the expiration of that time the muscles and tendons ought to be seasoned enough to justify the trainer in indulging the horse with slight spurts. In these he may be permitted to move along lively without overtaxing his powers or his wind. No rule can be given as to their length. The only thing to be said is, that they ought not to be very frequent, and never long. The judgment of the trainer should enable him to determine how frequent they may be, and to what distance he may venture to send him without danger of overdoing the thing. It must be remembered that at this early stage of his preparation the horse can bear very little, compared with that which he will endure with ease, and which may be undertaken with impunity when his condition has become forward. It is a rule with some to adminster physic before the work of the horse is commenced, but I have never been able to perceive the wisdom of such a course. It is supposed that if the horse has been wintered well, the secretions will be moderately active, and the bowels regular when the time to commence work comes. In such a case there is no necessity for physicing. It may be apparent that some medicine may be required to abate internal heat and humours, or if the horse is gross and fleshy, from being overfed while standing still. In such cases a mild dose of medicine may be given with advantage. In such cases I prefer to jog for a few days, then let up and give a mild dose of medicine. Work is not to be resumed until the effects of the medicine has passed off, and then it is to be carried on the same as if there was no necessity

for it. While this part of the preparation is in progress the feed may be increased, though not up to the extent that will be requisite when the work is made longer and sharper. He may have during this first part of the preparation from eight to ten quarts of oats a day, according to his capacity as a feeder, and the demands made upon him by nature, for supply of strong food under work. As the oats are increased the horse will want less hay, but may still have all that he will eat up clean. After taking his feed of oats, he will not consume as much hay in general; but some horses are such gluttons that it is necessary to limit them as to hay almost from the first. There are even some who will eat the straw of their bedding when they have had all the grain and hay that ought to be fed to them; and with these it sometimes becomes necessary to put on the muzzle long before the time for the race. No carrots are now to be given. While the jogging and after preparation are going on, a bran mash now and then will be proper. About once a week will be often enough and not too often. This will be indicated by the condition of the horse's bowels. If the bowels are relaxed the necessity for a bran mash is not indicated. If of a light washy order, not having much bottom when put into sharp training work, mashes are to be given more sparingly than to those of the opposite character.

After the week or ten days of moderate trotting, by which the muscles and tendons will be hardened and the wind improved, the horse may be pushed along at half speed; and he may be started up and moved at three-quarters speed for about half a mile. This brush of

half a mile at three-quarters speed may be increased if the horse feels fine and improves under his work. The next step will be as soon as you perceive that he stands up well to his work, comes out cheerfully, and takes it with a relish, to brush him along at a speed for a quarter of a mile, or even half a mile, to the degree that he will bear. He is not of course to be forced in pace up to the extreme of what he is capable in a race.

Care is also to be taken that natural ardor and willingness, are not suffered to carry the animal to any extreme of exertion. High strung horses are apt to want to do more work and to do it faster, than is good for them. This frequently misleads inexperienced persons, who seeing them ambitious, let them out loose, imagining that it can do no harm. Such horses require to be watched carefully and taken in hand, for their natural eagerness to perform is not often accompanied with power to keep on, and stand up under a severe preparation at such a rate.

On the other hand, there are others lazily inclined, but requiring a great deal of work to make them fit. These are commonly able to bear as much as it is deemed necessary to give them, and they must be wakened up from time to time, so as to get them down to work. So the training goes on. The improvement in condition is to be watched and noted, to determine when it will be safe to give the fisrt trial. No rule can be laid down as to the amount of work the horse ought to have before the trial may be ventured on. His condition as he appears while at work, and during and after his speedy brushes, is to be the guide by which the judgment in the matter must be directed.

During the fast work preparatory to the trial, the horse should be put upon his largest allowance of strong food. Some will not eat more than eight or ten quarts of oats a day, and it is necessary to be careful that these light feeders are not over-worked. Twelve or thirteen quarts is about what a good feeder ought to have. Some will eat sixteen quarts of oats a day, but this is in my judgment more than should be given, as when a liberal quantity of food is given, there must be very active work to keep the flesh down, and get rid of those superfluities, inside and outside, which experience has shown must be eliminated before the horse is capable of his best achievements.

If it were a mere question of health and vigor, we might say the more oats the horse eats, the more work he can do with impunity, and the better his condition will be on the day of the race; but it is not a mere questions of bodily health and vigor, for the extra amount of work made necessary to get off the effects of the extravagant quantity of food consumed, and keep the horse only in proper flesh at the same time, imposes a great task upon the legs, which are commonly the first part that gives way in the horse when the work is made fast and severe. Unless there is something peculiar in the animal and the circumstances of the case, thirteen quarts a day will be found sufficient.

Sweating.

During the preparation which precedes the first, it will be found necessary to give the horse one or two sweats. Whether it ought to be one or two must be indicated by the condi-

tion and nature of the animal, the races in which he is engaged, and determined by the judgment. The amount of clothes in which he shall be sweated must be determined also by the judgment of the trainer. Some may require a blanket, and a hood, and a wrapper around the neck, to start the prespiration out of them; while there are others that will sweat freely with but little clothes, and scrape well when more have been thrown on at the end of the jog. One thing may certainly be said, that a sweat obtained without the use of heavy clothing is more satisfactory, and better than one with it, provided the latter method does not include a good deal more work to get the sweat. Only a moderate quantity of clothing and little work, while the horse is going, are the best for a sweat, if a good scrape can thus be obtained.

When the horse comes from the drive and is taken out of the wagon, he will soon be ready to scrape. That done he must be blanketed up again and walked about, out of the draft. A favorable day for a sweat ought to be taken advantage of as a matter of course. Another light scrape may be had after some time spent in walking in the blankets; but if the prespiration does not continue so as to give this second scrape, it is not to be forced by more work in the clothes. To be of use in itself, and as a satisfactory indication that the condition of the horse is advanced, it must come of itself. During the time this sweating and scraping process is in course of operation, there should be no hurriedness. It usually is easy enough to get the sweat and scrape, but more difficult to cool the horse out properly.

In order to do this well, he is to be clothed again, and led very gently about for some time, so that he may become cool gradually, and the prespiration may dry slowly. This walking is to be out of all draft as much as possible; and it will not do to hurry it over and go to the stable, until the horse has cooled off well. When the proper state has been reached, the horse is to be taken into the stable and his body to be well dressed. This done, he is to be unclothed and again led into the air. A few swallows of gruel made of Indian meal or fine shorts, from half a pint to pint of meal stirred into a bucket of water, may now be given to the horse, or water with the chill taken off may be given as a substitute. When taken into the stable again, which will be after a little more walking, the legs are to be put in tubs of warm water, the body clothing being kept on. The legs are then to be well washed with water and castile soap, and when dried off to be bandaged. These bandages should be of light flannel, and they must not be put on tight so as to impede circulation. A moderate degree of tightness only is admissible.

When all is done, and the horse is nicely cooled off, he may have a good scald mash, and less hay than on other occasions, for the night. On the morning after the sweat, the horse ought to feel limber and in good spirits. In his jogging, which may be of two or three miles, as you may judge him to need, he may have a couple of brushes, of a quarter of a mile each, at nearly or quite full speed. When horses have been well sweated, and have got well cooled out of it, they are ambitious, and feel like going fast with ease; and will let out

with more energy than they have at any other time during the preparation.

After the horse has had the sweat, as before directed, the regular work is to be resumed and carried on as before, and the feed is to be the same as it was before. It must be borne in mind that the object of the sweat is to loosen the flesh, and remove the fat and other superfluities, which add nothing to the horse's strength, impede his wind, and make so much more weight for him to carry in training and in his races. On the other hand, the regular work is not to take away the sustenance, but to increase the volume of muscle, harden its consistency, and increase its elasticity and strength. Thus the sweats merely reduce, while the regular work reduces the soft parts to some extent, of itself, but builds up and developes the moving powers. It follows that when the horse in hand is of a weak and soft habit, great care must be taken, that he is not sweated too much in clothes; for if he is, he will shrink in the course of work, and become thin and dry after one or two races. If the time of training could be extended, and there is no danger to the legs and constitution in making the work severe, the sweats might be dispensed with almost, or quite altogether. But this is not the case, and therefore the sweat in clothes is resorted to, in order to get rid of the superfluities more rapidly and with less risk to the legs, than the regular work would do.

Where the horse is of good constitution but infirm in his legs, there must be more sweating in clothes, and less work without them, than in other cases, In five or six days after the sweat, the horse should be ready to stand a half mile

trial. Unless something has gone wrong, he ought to be fit to go that distance under the watch, and thus afford a certain indication as to his speed and advance towards racing condition. It will not be necessary to muzzle him over night for this short trial, unless he is a rank feeder. His oats are not to be reduced in quantity, and he may have his usual allowance of hay, unless he has been accustomed to eat a great deal. His morning feed before the trial, may be a little less than usual, and the water to correspond. The half mile trial being found satisfactory, the work will be carried on as before. Let him jog till he has emptied himself, then move him at three-quarters speed, with sharp and lively brushes, to make him square away and get up to his best rate. The amount of work must be guaged by the judgment and skill of the trainer, in view of how the horse goes on and improves, and of his known breed and character.

It is quite certain that the the thorough bred will improve under an amount of work that would ruin a coarse bred horse. Therefore it is to be expected that a well bred trotter will take more work with advantage, provided his legs stand, than one of a poorer grade of blood. Until the horse has been trained, it is impossible to say what he may bear, and what is required, to bring him quite fit on the day that he is to trot for money. Therefore it is necessary to be vigilant as the work goes on from day to day, and if the slightest symptoms appear to indicate that the limit has been reached, the horse must be eased.

In five or six days after the first trial, the horse will be fit to be tried a mile if he has

been doing well. It being found that he is all right, this will do for a mile race. Even if the race is two miles and repeat, it will sometimes be best to avoid further trial. It depends upon the condition and character of the horse, and the state of his legs and feet. If he is known to be a stout one, and his legs are all right, another trial may be had prior to the two mile race, and in this the horse may be repeated. But if the speed is there and the condition is good, it will be safest not to hazard more trial. When the horse has appeared in his first race, and shown speed looked for, and given evidence of good condition, he is not to be treated exactly as before in getting ready for the next. His work is now to be reduced; for if he is kept at it just as he was before his engagement, he is almost certain to lose speed.

Should the race for which the horse is in preparation be three mile heats, the work must be longer and not so sharp as for mile heats, three in five, and two mile heats. The lasting qualites are to be developed by more jogging, and not so many spurts of speed in comparison. More time should be taken also for a three mile race, than for mile heats three in five, unless there is a shorter engagement. About three weeks before the race is to come off he may have his first trial, which will be a mile. The mile trial having been satisfactory, the work is to go on as before, and in about ten days the horse will be ready for his final trial.

In getting ready for this his hay and water over night may be reduced a little, and the muzzle put on. The full allowance of oats is to be given. At the actual trial commence with a mile, at good speed. At the end of it

blanket up and scrape, and walk about for half an hour. Then repeat two miles out. If in this the horse does well, shows speed and freshness, and finishes with energy, he is in condition, and capable of making the race. The trials are never to be as long as the race for which the horse is being trained. In the three mile preparation there will be walking exercises five or six miles a day, and three or four of driving, with spurts of speed. From the time of the final trial to the race, the work should be the same as it was before, unless the wisdom of a change is indicated by what took place in the trial. If in that performance the horse showed plenty of speed, but pulled up distressed at the end of two miles of repeat, it would be evidence that he is not up to the mark in condition, and the work should be increased. In any case it will be of great importance to have the wind clear for the race, and four or five days prior to that event, the horse should a light—a jog with a hood and wrapper, so as to get a nice scrape, is all that will be required. The cooling out to be as before directed.

Breeding.

One of the primary points of success is to start right, and in no respect is this more essential than in breeding. The law of like producing like is inexorable; consequently it is seen that to raise good horses, good horses must be bred from. Many farmers who are otherwise keenly alive to their interest, are singularly thoughtless and imprudent in this. If a mare is broken down and unfit for labor, no matter how coarse, badly formed, or what the

evidence of constitutional unsoundness, she is reserved to breed from. Again, the cheapest horse, no matter how coarse if sleek and fat, is selected and employed to cross with. The most ignorant farmer is particular to select the largest and soundest potatoes, the cleanest wheat and oats, for seed, &c. He has learned this is true economy. Yet there seems to be the most utter disregard of this law of prudence in the breeding of horses and farm stock in general. During my long experience before the public, I have endeavored to impress upon farmers, when I could, that this sort of economy is like paying a quarter for a chicken, and paying a dollar to take it home.

It costs just as much to raise a poor, coarse blooded colt, as a fine blooded one. The cost of feeding and care is really the same, the only difference in cost being in that of the use of the horse. The first will possibly sell when five years old and trained to harness, for from a hundred to a hundred and fifty dollars. The other is worth from three hundred to a thousand, and possibly more. The first will scarcely sell for the cost of feeding and care. The second ensures a large profit, and this for a little additional first cost. And then the satisfaction of having fine valuable animals, that can go along if necessary, able to do any kind of work easily, and saleable for a large price, is a source of no ordinary pleasure and encouragement, if from no other feeling than that of contributing so largely to increased economy and wealth.

The fact is, breeding from poor unsound horses is so much a detriment, that it would be a damage to any one to be compelled to breed from such stock, if given for the purpose. If

you wish to raise horses, select good sized, well formed, sound, fine blooded, good stepping and good colored mares, even though at an extra cost. The stallion should be free from all taint of hereditary disease. Spavin, ringbone, splints, poll evil, heaves, broken wind, contraction of the feet, weak eyes or blindness, are more or less constitutional; consequently there will be predisposition to such. Strong circulation and constitutional vigor should be undoubted. This is of course in a general sense. To be particular requires first, intention as to purpose for which intended. If heavy draft horses, evenly trotting roadsters, or ponies, select both dam and sire with special reference to the kind of stock wanted. If the mare is light boned or defective, select a heavier boned horse, or that possesses the contrast of greater strength or better points in that respect. But to ensure much certainty of what you would have, the mare and horse should be as nearly the type as possible, though not related. I would be very particular about disposition and intelligence. The head should be broad between the eyes, muzzle small, short or middling short from eyes to ears. The smaller and rounder the eyes, the more positive will be the temper. To have a horse sensitive, intelligent, courageous, and naturally docile, there must be large brain, the eye must be large, sticking well out, and mild in expression.

Of course it is understood BAD TREATMENT WILL SPOIL THE BEST TEMPERED HORSES, AND GOOD TREATMENT WILL MAKE GOOD SAFE ANIMALS OF THE WORST.

The Mare.

The mare is said to go with foal eleven months or three hundred days; but it is not uncommon for mares to have fully developed foals in much less time, and in many instances mares have been known to go four or five weeks beyond this time. Time should be so arranged in putting mares, that the colts would come at a time when there is some grass, as the mare will do better not to be confined to dry feed. The virgin mare, or one that has not had a colt, for one season, should be put when she is found in season. The mare that has had a colt will be found in season, and should be put on the eighth or ninth day after foaling; some prefer the eighth, others the eleventh. Good judges claim that it is dangerous to go beyond the tenth, as the mare is apt to come off her heat soon after, and if allowed to go to a later period, the sucking of the colt is likely to reduce the mare too much to allow conception to take place, and thus a year's service of the breeder is lost.

After putting a mare the days for trial are the ninth after the service, the seventh after this, the fifth after this again. Some commence again, commencing with the ninth day and follow up as before, making forty-two days. Twenty-one days being the period elapsing between a mare's going out of heat, and coming in again, making her periodical term thirty days. Twenty-one days is claimed to be sufficient to prove a mare.

After conception, the mare if allowed to go free will stand by a fence or tree in a partially dormant position until after the heat passes

off. If at this time she is overworked or scared, she will be likely to cast the conception, and will require to be served again.

After the mare has been a few weeks with foal, moderate work will not only do no injury, but will be of service to her, but at no time when she is with foal must she be placed in a situation where she will be at all likely to receive severe jolts, kicks, or any other violence. Another great preventative to conception, is turning mares out with string proud or badly castrated horses, as they are a cause of positive annoyance to them, and must not be allowed, as such annoyance greatly endangers the certainty of conception.

A fine mare was put to a horse, she was proved on the regular trial day, and showed all the signs of conception. Three weeks after being served she stood quietly by a fence, and the owner coming up, thinking her sick, started her suddenly. The fright so shocked her nervous system that she sickened, lay down and cast the embryo. Another in the same neighborhood aborted by a horse teasing her.

A gentleman who had put a mare that had bred several colts, but at this time and also the year following, she was grazed in a pasture adjoining one in which a string proud horse was kept. She was teased by him. The consequence was she had no colts for two years. The cause of mischief was finally mistrusted, the mare was put in another field away from the horse, and she did not fail to breed afterwards.

It is a well known fact also, that if a mare is near food she likes, and is denied being given some of it, there is danger of abortion being pro-

duced. I might enumerate a great many cases illustrative of the bad effects of causes in themselves slight, to produce abortion. Much care is necessary. Persons owning mares that have failed to conceive, should be unusually cautious, as mares having aborted once, are predisposed to do so sometimes by the most trifling causes.

It is a noticeable fact also, that subjecting the mare to abuse, or great fear from any cause, effects the character of the colt powerfully.

Calling the attention of a class lately to these causes of mischief, one of the gentlemen corroborated my assertions by making the following statement: He and a neighboring farmer owned two cows. His was extremely wild and intractable; the other was very gentle. The informant said he treated his cow with care and kindness. The man owning the gentle cow was in the habit of making his dog drive her up to milk, the dog causing her to run and be much excited. The cows had fine bull calves. The owner of the wild cow bought the calf of the other, and in time broke them to work, and he said that the barking of a dog or any noise, would make the steer he bought act wild and foolish; that he was naturally wild and untamable, while the other he raised himself, from the wildest animal, was as gentle as any steer.

I could refer to many interesting instances of colts showing the marked effects of abuse and excitement on the mother. This is not to be wondered at, since it is seen that the brain controls and regulates the action of the developing brain and nervous system of the fœtus or colt. Such causes should be carefully guarded

A stallion of a known vicious character, should not be bred from. The horse should be in vigorous health, and this imples that he has been subjected to moderate but regular exercise, during the season. A horse however, that is driven and hurried from place to place, over-heated perhaps, and made to cover from three to seven mares, should be regarded as unsafe. They are not sure, and the progeny of such are liable to lack vitality.

After the colt comes, the mare should be allowed to stand idle for three or four weeks, until she gets her milk and has time to regain her strength; and the foal also requires time to acquire strength. It is injurious for the colt to run with the dam on hard roads, to an extent at least that would strain or exhaust. Above all other times in the life of the horse, at this period, and during the first winter, bad treatment is most injurious. The mare and colt should be well fed, and protected from storms. The theory of working a mare hard, and half starving the colt, is the poorest kind of economy, since the mare needs generous feed and rest, to renew her strength and make her milk, by which of course the colt is nourished and made to grow. When size and strength will indicate that it is time to wean, which is usually in five or six months, put the colt in a quiet pasture, away from the mare, where it should be closely looked after. A little oats, (better if bruised,) should be given daily.

The conclusion of careful breeders is, that it is much better for a colt to run in pasture, than to be confined in a stable. If the colt is intended for farm use, castration may be performed when six months old; if however, the

withers are light, it should be postponed until the head and neck fills up to the degree required, and this may require from one to two years, or even more. If the head is large and heavy, early castration is advisable. Colts should be generously fed, and protected from the inclemency of the weather in winter. They should be treated gently. May be broken early to harness, if treated gently and with care. This however is hazardous, as there is danger of over driving young colts if they are driven at all. Many seem to take pride in trials to which they subject two or three year old colts. It is not what they can do, but what they ought to be required to do.

To become well posted on this interesting subject, the reader should get the works of different authors. A little money employed for books on this as well as kindred subjects, will be found to be wisely used, but they should be read carefully. The limit of my space, even if I felt competent to develop this subject, will not admit of more than a few general remarks.

Stable.

The cost of a properly constructed well-ventilated stable, is but little if any more than is necessary for a poorly constructed one. My observation in traveling during the past eight years, caring for my horses in different stables almost daily during this time, extending over nearly twenty states, has revealed to me both unpardonable ignorance and carelessness, in the arrangement and construction of stables. This is especially noticeable in the Middle States, and partakes of the economy illustrated

in the majority of dwelling houses. They may look well outside, and may be even strongly and expensively constructed, but without scarcely any regard to ventilation. Small rooms after being used to sleep in, are arranged for use by simply adjusting the clothes on the bed, shutting down the windows if open, (which is usually but seldom,) the door is closed and suffered to be so till again occupied. The commonly used feather bed soon becomes fetid, often so musty as to be strongly noticeable to the feelings on the instant of entering the room. The air is contaminated with this and other animal effluvia; there is no circulation, the window is usually fast, or if opened exposes to a draught of air still more dangerous to health. Wealth, the pride of intelligence, and beauty, fade into insignificance, when pained with the prostration of a nervous head from such a cause.

This is a fault that should be carefully guarded against in construction, by making ventilators over the doors, and admitting of the windows being raised or lowered, and certainly every reasonably intelligent housekeeper should see that beds and rooms are thoroughly ventilated, after being used.

Precisely so in theory is the arrangement of the stable. It is usually a closed box over a cellar perhaps half filled with water and manure, that throws upward through the floor a deadly miasma, that lays the foundation of disease. A large rack is crammed with hay, the dust and dirt of which is forced against the horse's nose. The manger is half filled with filth and trash. The bedding, thoroughly impregnated with amonia, is rolled under the manger in the morning, to saturate and poison

every thing above it; and here the horse is compelled to stand and feed, constantly breathing upon this mass of hay, with amonia usually strong enough to make the eyes smart in half a minute, continually evaporating and poisoning the air.

Bear in mind that I have no selfish object in view, more than that of pointing to defects it is true economy to correct, and it is my highest duty to bring to the attention of all entitled to my services.

A stable should be large, well ventilated, but warm and well lighted. The stalls should be at least five feet wide for work horses, and if fine horses that are worked but little, they should be large enough to enable stepping around freely. If there is room, a box stall is the best, but it should not be close. The door at least should be made of slats, and a window above the head, so arranged that it can be thrown open, to give light and ventilation. The door should be large, to preclude injury by striking the sides or hips against the posts, and there should be a reasonably large yard, which should be well fenced. If a manger and rack of the common form across the stall is used, I would suggest an improvement.

First, the manger should be so constructed that the horse cannot waste the feed while eating, yet should not be very high, (the top about three and a half or four feet from the floor.)

Second, the rack should not slope out over the manger and horse's head, which makes it not only difficult for the horse to pull the hay out, but causes seed and dirt to fall into his eyes and mane, and the dust to be brought to the nose and inhaled. The front of the rack

should be upright or purpendicular, and the back so inclined that the hay will all the time be in the horse's reach. The bottom should be open like the front, so that the dust can drop through to the floor.

The best form of manger I have seen, both for convenience, safety and health, are those so constructed that there is an alley in front of the head. The place for hay is a sort of box, on one side of which is a feed box, which should be large enough to prevent throwing the feed out while eating. The hitching ring should be on the off or farther side, to prevent the strap being caught by the foot. The manger should be about on a level with the shoulders. The nearer the horse is made to imitate his position when eating in the field the better. But this is not admissible in the construction of the manger, since the horse would waste the feed. This form of feeding box and manger is cleaner. There is not that temptation to give more hay at a time than the horse may need. The manger can be reached easily and safely; in feeding the hay is easily thrown upon the floor, where it can be easily shook up and thrown fresh and palatable to the horse. It obviates the usual temptation of a receptacle under the manger, in which to pack during the day a lot of poisonous bedding, and finally, there is the best of ventilation, as the air can freely circulate in front of the manger. Every stable should have a sort of chimney, or opening on the top, to allow of the bad air to pass out freely. The windows should be so placed as to admit light enough, that the ordinary work of the stable can be done without opening the doors, which should have shutters

to enable darkening the stable if necessary, when flies are troublesome, or to permit sleep in the day time, which is often necessary, and finally, the walls, if any, in front of the horses, should not be, as is often done, whitewashed a pure white, as it injures the eyes. The color should be made neutral by adding something brown or dark.

Cellar stables or those that are underground, admit of so little light and ventilation that they are not safe, and should be discarded. The wisdom of doing so may become more apparent after losing one or two horses with some form of acute inflammation.

Feeding.

Hay, corn fodder, oats and corn, constitute the principal food of horses in this country. Hay and oats in the Northern States, fodder and corn in the South. The food should be in quality and quantity to impart strength, vitality and elasticity, and this requires some discrimination and care, as the food should be harmonized both to the condition, and the severity of the labor to which the horse is subjected. As a rule, the stomach should not be distended with food when prolonged, energetic effort is necessary, as the heart and lungs would thereby be much impeded in their action, and congestion and rapturing of or enlarging of the air cells of the lungs may result. This is to be especially guarded against in the feeding of hay. Greedy eaters can and will gorge themselves by eating so much hay as to be unfit for active labor, and is usually shown to result in heaves or broken wind. Heaves are always

found in the teamsters' or carters' stables, where there is no care in feeding. The disease is always found among horses of the above class, but never found among racing horses, from the fact that the utmost prudence and care is used in selecting the food, and feeding in smaller quantities, or in making the relation more perfect to the wants of the system.

It has been demonstrated beyond doubt that the reason horses improve so much in wind by eating prairie hay is, that it is so coarse that horses cannot eat it fast enough to overload the stomach. The quantity of hay should be carefully regulated, and never as much given as the horse will eat if at all voracious. The majority of owners pack a large rack full, allowing either liberty to eat too much, or making it upalatable and unhealthy, by being breathed upon. From eight to ten pounds is about the average quantity for an ordinary roadster to be allowed in twenty-four hours, more or less, according to size, the kind of work, and the quantity of grain given. Dusty or mouldy hay should not be fed, as it is liable to produce various forms of disease.

All food should be clean, and in quality perfect. Hay is most perfect when it is about a year old. Horses would perhaps prefer earlier, but it is neither so wholesome nor so nutritious, and may purge. When it is a year old it should retain much of its green color and agreeable smell.* The blades of corn pulled and cured

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* NOTE 1.—In packing or stacking hay, salt should be slightly sprinkled through it so as to destroy insects. It also aids in preserving it bright, and makes it more palatable and healthy for the horse.

in the summer are unquestionably much better than hay. I should certainly prefer this kind of fodder to any kind of hay, for fine horses. It is strange that it is not prized more highly North.

Oats make more muscle than corn. Corn makes fat and warmth. Hence, the colder the weather, the more corn may be given, and the harder the work, the more oats. Oats should be a year old, heavy, dry and sweet. New oats will weigh from ten to fifteen per cent. more than old ones; but the difference is principally water. New oats are said to be more difficult to digest, and when in considerable quantity are apt to cause flatulency and derangement of the stomach and bowels. The same may be said of corn. If not sound and dry, it may be regarded even much more dangerous than oats, and should not be fed. Doing so will be at the hazard of the consequences above named.

The quantity of oats given daily may vary from eight to sixteen quarts. If the horse is large, and the work is severe, a little more may be given. Experience proves that some mildly cooling laxative food should be occasionally given. Corn should be fed in the ear, and like oats must be regulated in quantity to the size and labor of the animal; from five to twelve good sized ears are a feed. I give a larger proportion of feed at night, and less in the morning and noon. There is ample time for digestion during the night. There is not during the day, if the labor is severe. A bran mash, made by pouring boiling water on eight or ten quarts of wheat bran, covered over until cool and fed at night, from once to three times a week, is the finest and best.

Carrots are a good laxitive and alterative before frost, but are too cold and constipating during cold weather. They may be fed in October, November and December, but in the Northern States not later, (I am governed by the judgment of one the best veterinary surgeons in the United States, based upon careful and critical observation of effects on a large number of horses, on this point.) I feed Irish potatoes, from one to three quarts, with the usual quantity of grain, from two to three or four times a week, and would recommend their use. Think their value cannot be over estimated. Feeding a small quantity of roots and giving bran mashes, keep the bowels open and the system in a uniform, healthy condition. Without them constipation is possible, and this is one of the primary causes of darrhœa, colic, or inflammation of the bowels. If it is desired to make a horse fat in a short time, feed corn meal and shorts, with cut straw, to which add a pint of cheap molasses. Nothing like this for recruiting and filling up a horse that is out of sorts or poor. If the horse eats too fast, put a few round stones in the feed box. He must now pick the food from among the stones, and thus be compelled to eat slowly.

If the horse is exhausted, or when sufficient time cannot be allowed for him to eat and partially digest a full meal, he may be greatly refreshed by a draught of warm gruel, or in summer of cold water containing a small quantity of meal. To give some idea of the routine of feeding and watering when great care is necessary, I include the system of feeding and watering Mr. Bonner's famous trotting horse, Dexter.

"At six every morning, Dexter has all the water he wants, and two quarts of oats. After eating, he is 'walked' for half an hour or more, then cleaned off, and at nine has two quarts more of oats. If no drive is on the card for afternoon, he is given a half to three-quarters of an hour of gentle exercise. At one o'clock he has oats again, as before, limited to two quarts.

"From three to four, he is driven twelve to fifteen miles; after which he is cleaned off and rubbed thoroughly dry.

"He has a bare swallow of water on return from drive, but is allowed free access to his only feed of hay, of which he consumes from five to six pounds.

"If the drive has been a particularly sharp one, he is treated as soon as he gets in, to a quart or two of oat meal gruel; and when thoroughly cooled, has half a pail of water and three quants of oats, with two quarts of bran moistened with hot water.

"Before any specially hard day's work or trial of his speed, his allowance of water is still more reduced."

Feeding Colts.

When the colt is weaned, which is usually when from four to six months old, he should be put in a back lot, out of sight of the mare. Should be carefully looked after during the fall and winter. There is no period of a horse's life that repays generous feeding and care so well as this of the first winter. He should have a good warm yard, on the south side of the barn, to run in during pleasant weather, and a

roomy box stall at night and during inclement periods. The feed should be good, bright hay, and plenty of it, two or three quarts of carrots or potatoes, to which from a pint to a quart of oats, should be given daily. All successful breeders of good horses are specially careful during the first fall and winter to protect colts from inclemency and feed generously.

Watering.

If a large quantity of cold water is taken into the stomach while the system is excited and sensative, by the circulation being so increased as to open the pores of the skin freely, it is liable to so chill the stomach as to derange the circulation and close the pores of the skin, and thus excite some one of the common alimentary derangements of colic or inflammation of the bowels. Hard water, especially cold well water, is more liable to cause mischief in this way than soft water. Hard water will derange some horses, so much as to show an almost immediate effect of causing the hair to look rough or stare, the appetite deranged, if not indeed preceded by colic or inflammation of the bowels; also, horses that are raised and worked in country, where the water is strongly impregnated with lime, are troubled a good deal with intestinal calculi, *i. e.*, stone in the bladder. Hence soft water should be given, if convenient; and if well water, especially while warm, it should either have the chill taken off or be given very sparingly.

The best time to water is about half an hour before feeding. While driving, the rule should be little and often. None, or only a swallow

or two, should be given at the close of a drive, until cool. If very warm, the horse should be walked moderately where there is not a current of air to strike him, from ten to thirty minutes, as may be found necessary. If, then, any danger is apprehended, the chill should be taken off the water if very cold and given sparingly a few swallows at a time. The common custom is to give about a half bucket of water. The safest course would be to give less and repeat. The rule should be, for ordinary use, to give small quantities often during the day, and the animal to pursue his journey or labor immediately after. If allowed to stand, the system is chilled. The absorbents are closed, which is the common cause of Laminitis or Founder. Although this disease may not develop itself until twelve or twenty-four hours afterwards. Any cause which will chill the system—either cold winds or cold water—while the animal is warm, will produce the above disease.

TEACHING TRICKS.

Do not hurry a horse too fast in his tuition. If you undertake to learn too much, or too fast in the start, or indeed at any time, you only confuse or discourage. Do so much as the horse can comprehend and appreciate, and daily progress.

Teaching to Follow.

If it is desired to simply teach the horse to follow promptly with halter or bridle on, apply the war bridle (small loop); when he comes round promptly, stand off a short distance and say, "Come here, sir." If he does not come to you, give a sharp pull, gradually changing positions and going a little farther. When he comes, promptly caress, if not, pull sharply, repeating in this way until you can make him come to you promptly in any direction.

To Make Follow with the Whip.

The simplest and easiest way of doing this, is to work up sharply with the war bridle, and when the horse comes around promptly, take a short blunt whip, step up to the shoulder, and while holding the bridle loose in the left hand, pass the whip gently over the shoulder, and tap lightly with the end on the off-side of the head. This will annoy the horse and cause him to move the head a little from it, toward you; instantly stop and caress, then repeat the tapping

again; should he attempt to run from you, hold him by the bridle. Repeat in this way until the horse will step toward you promptly. Then touch the whip over the hips and say, "Come, sir. If he comes up to you, or shows the least disposition to do so, caress, and so continue until he will come up promptly. Now step a little sideways and ahead and say, "Come, sir." If he should step after you, caress, if not, touch the lash over the hips. In a short time the horse will learn to step to you, and follow promptly. When he will do this, stand him in a corner of the room, stand a little in front of him and touch him lightly with the whip on the fore-legs and say, "Come here, sir." At the least intimation of coming, stop and caress. Then repeat, touching with the whip. If he moves to you a little, stop and caress, and in this way repeat until he will come to you promptly. Then get a little farther from him and repeat in the same manner until he will learn to hurry up to you, to get away from the whip. Should he bolt away, put on the bridle, and hold the end in the left hand. You can now hold him by the bridle when he attempts to run, until he finds he cannot get away, and will come up promptly.

This lesson should be made very thorough before there is an attempt to take the horse out of doors, and then in a small yard. If this is not convenient, put on the bridle, having good length of cord, and hold in the left hand loosely.

If the horse is of a bad character, the following method may be used: Turn the horse into a room or small yard well enclosed. Provide yourself with a good bow whip. The horse will feel uneasy and look around at you, and

then perhaps for some place by which to escape. Walk up to him, and as he runs into a corner apply the lash sharply under his flanks, following him up, making the whip sting keenly around the hind legs. When he stops or turns his head toward you, stop instantly, reach out the hand, at the same time approaching gently. Should he run or turn around to kick, whip instantly as before, and so continue until you can approach and caress the head and neck a little. Then say, "Come, sir," at the same time touching the whip lightly over the hips. If he comes, or shows the least disposition to do so, caress and speak encouragingly. If he runs, whip as before, and so repeat until the horse will come up promptly when touched by the whip.

As the object is to make the horse honest in following, it is necessary to make him feel that you whip him only for resistance, encouraging and flattering for every intimation of obedience, until he realizes his safety from the whip to be to come to you.

To Lie Down.

Tie the bridle reins into a knot back of the neck. Throw your strap over the back, under the body and tie to the near foot, below the fetlock. Now pass the right hand well over the back and take a short hold of the strap. Cause the horse to step toward you and pull the foot up. Then pass the left hand around the reins and pull back and down upon them in such a manner as to turn the head a little to the off-side, at the same time pulling down steadily, but firmly on the strap over the back with the right hand. As the horse goes down, gradually

pull the near rein, so as to bring the head to the left, at the same time pressing down and from you firmly with the right, until the horse will lie down. Pass the end of the strap now through the ring of the bit and draw through gently, step over the neck, and as the horse attempts to get up, pull him back, until he lies quiet. Rub and caress him, and after lying a few minutes, say, "Get up, sir." Repeat in this way for a few times until the horse will lie down readily. Then while holding him on or near the knee with the strap, hit him on the shin of the other with a little whip, until he will bring it under and lie down. After a while he can be made to come on his knees and lie down by simply pulling the head down a little and hitting the shins with the whip, at the same time saying, "Lie, down, sir," repeating until the horse will lie down to the motion of the whip. This is about the easiest and most practical way to treat a horse to lie down. There is no danger of injuring the knees, or of causing accident. If the reader should not get sleight of laying a horse down in this way, cover the floor deeply with straw, tie up the fore-leg, use the strap on the near one over the back as before, until the horse will lie down, repeating as may be necessary until the horse will lie down to the motion of the whip, as before explained.

To Sit Up.

When the horse will lie down promptly, put on him a common collar, and while being down take two pieces of rope, or anything suitable, about ten feet each in length. Tie the ends around the hind-feet, carry them forward be-

tween the fore-legs and bring them once around the collar. Now step on his tail, take the bridle reins in the right hand, while you hold the ends of the ropes firmly in the left. Give a little jerk on the reins and say, "Get up, sir." When the horse throws out the forward feet and springs to raise himself on the hind-feet, he finds himself unable to complete the effort, on account of the hind-feet being tied forward under him, and so he brings himself in a sitting position. Instantly step forward, holding the ropes firmly, rub and caress the head and neck a little for a few seconds, then as you see the effort to keep up becoming tiresome, let loose and say, "Get up, sir." By repeating in this way a few times the horse will soon learn to sit up when commanded without being tied.

To Make a Bow.

Take a pin in your right hand, between the thumb and fore-finger, and stand before, but a little to the left, of your horse. Then prick him on the breast lightly, as if a fly biting, which to relieve he will bring down his head, which you will accept as yes, and reward for by caressing and feeding as before. Then repeat, and so continue until he will bring his head down the moment he sees the least motion of the hand toward his breast, or substitute some signal which he will understand readily.

To Say No.

Stand near the shoulder, holding the pin in your hand, with which prick him lightly on the withers, to drive which away he will shake his head. You then caress as before, and so repeat-

ing, until he will shake his head at the least indication of touching him with the pin; you can train your horse so nicely in this way in a short time as to cause him to shake his head or bow by merely turning the hand a little, or moving it slightly toward him.

To Kiss.

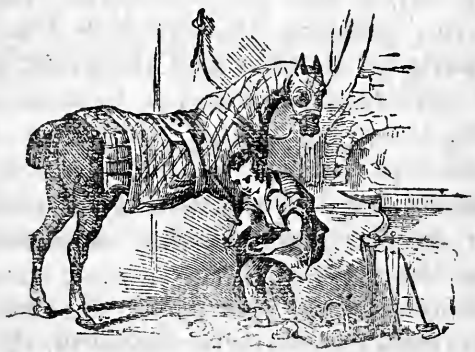
Teach him first to take an apple out of your hand. Then gradually raise the hand nearer your mouth, at each repetition, until you require him to take it from your mouth, holding it with the hand, telling him at the same time to kiss you. He will soon learn to reach his nose up to your mouth; first to get the apple, but finally, because commanded to do so. Simply repeat until the horse understands the trick thoroughly.

To Shake Hands.

Tie a short strap, or piece of cord, to the forward foot, below the fetlock. Stand directly before the horse, holding the end of this strap or cord in your hand, then say, "Shake hands, sir," and immediately after commanding him to do so; pull upon the strap, which will bring his foot forward, and which you are to accept as shaking hands, thanking him for it, by caressing and feeding, and so repeat until, when you make the demand, he will bring the foot forward in anticipation of having it pulled up. This is a very easy trick to teach the horse. By a little practice a horse may be easily trained to approach, make a bow, shake hands and follow like a dog, lie down, sit up, etc., which make him appear both polite and pleasant.

SHOEING.

The hoof of the horse in a state of nature, is adapted only to a grassy surface. Here, the natural wear and tear of the hoof is just compensated by its growth. When the wear is made greater than this by driving on hard roads, the horn is worn down so rapidly, that the vascular part of the foot would soon be exposed, and the horse would in consequence become lame.



The first attempts towards rendering the horse useful on hard ground, were directed to hardening the hoof. Hence, it was recommended, according to history, that the feet of horses should be kept free from moisture, that their hardness might not be impaired. Several applications in the form of ointments and lotions were used, with the intention of toughening the hoof, but without avail. In large cities the roads were paved with large flat stones, to

diminish as much as possible the wearing of the horny substance of the foot.

The first step towards shoeing horses was by fastening a sort of sandal to the foot, by means of straps or strings, and as experience enabled, improvements, plates of metal, were used, but fastened to the foot in the same clumsy manner. It is supposed that plates of metal, or shoes were used, and attached to the feet in this way for nearly a thousand years, before it was found practical to fasten them with nails. The first effort to fasten shoes to the feet by nailing, was by driving the nails down through the crust and shoe, and riveting on the underside. It is not known by whom or exactly when this improvement was made, or when the present system was introduced. In some parts of Illinois and the great plains of the West, where the ground is free from stone and gravel, it is not found necessary to shoe horses, and now in some countries not advanced in civilization we find greater or less degrees of rude skill used in the method and means of protecting the feet.

The Icelanders form a piece of ram's horn into shape, and fasten it to the foot by means of horn pins. The antlers of deer are used for the same purpose, according to the accounts of travelers, by people of other remote regions. In Japan sandals of plaited straw are used, fastened with straw bands around the fetlocks. The Arabians use a simple plate of iron with a hole in the centre, nailed on.

The system of shoeing now in general use, is to fit a simple flat piece of iron, with or without corks, to the form of the foot, and nailed firmly to the wall of the hoof. If this is done

so as to restrict the natural freedom of the crust, or in any way induce to an unnatural condition, that will cause irritation and injury of the laminæ, or fleshy structure connecting and between the hoof and coffin bone, a diseased condition is produced, that results, to a greater or less degree, in some one of the causes of malformation and lameness to which horses are subject.

The principal causes of mischief from shoeing, directly or indirectly, are: *First*, lack of skill and prudence in paring the hoof, so as to bring it back to its natural bearing and condition. *Second*, in fitting the shoe so as to bring the bearing even and naturally on the the rim of the hoof only, and nailing it on so as to interfere as little as possible with the freedom and enlargement of the hoof as it grows; and *Third*, in permitting the hoof and frog becoming unnaturally dry and hard. In its natural state the foot will be found to be almost round, and very elastic at the heels; the frog broad, plump, and of a soft yielding character; the commissures open and well defined, and the sole concave; the outside of the crust from the heel to the toe, increased from a slight bevel to an angle of about forty-five degrees. Consequently, as the hoof grows it becomes wider and longer in proportion to the degree horn is secreted, and narrower and shorter to the degree that horn is cut away from the ground surface. If a shoe were fitted nicely and accurately to the foot, after being dressed down well, it would be found too narrow and short for the same foot in the course of a few weeks. Consequently, if the shoe is nailed on firmly, as is usually done, well back to the quarters,

as the foot grows the restraint of the shoe prevents the foot becoming wider as before. The longer the shoe is kept on, the more increased the growth of the horn, consequently, the greater pressure upon the quarters.

Secondly, if the bearing surface of the shoe is concave, as is usually the case, there is not only increased lateral resistance upon the quarters on account of the restraint of the nails, but the tending of the heels to slide inward as weight is thrown upon the foot, causes so much pressure upon the laminated structure connecting the hoof and coffin bone, as to cause it to become inflamed and injured. This tendency is increased by allowing the hoof and frog to become dry and hard. The increased heat induced by inflammation causes an increased absorption of moisture. The dryer and harder the hoof becomes, the more it is contracted in size. Hence we see three disturbing causes of injury and contraction. If, also, the sole should rest upon the shoe at the heels, or in fastening the shoes to the feet the nails were driven too near, or into the quick, there would be increased injury, which would cause a change of structure, or the formation of matter that must cause serious or incurable lameness if not properly treated.

In trimming and preparing the hoof for the shoe, the object should be to bring it back to its natural position, bearing and form. If the shoes have been on a month, cut away the horn grown, more or less, according to the length of time the shoes have been on, and the quantity of horn grown. Bring down the bearing surface to almost a level with the live horn of the sole, making it level. If the foot is in a healthy condition it is seldom necessary to in-

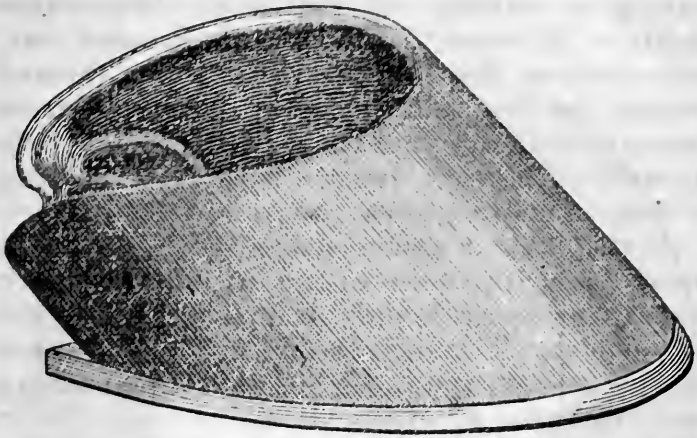
terfere with the sole or frog. The sole and frog throw off old horn by exfoliation. Sometimes the shoe extends so close and so far over the sole, as to prevent this old horn from either wearing or scaling off the sole. When this condition is found, it should be dressed out, particularly at the heels, at the angles formed between the bars and the crust. The buttress is usually too large and too square-edged to do this well. There is danger with it of cutting too deep in some places and not deep enough in others. An English shave, with the edge turned back, like that of an instrument with which to measure boards, is just the thing for this purpose. The bars should not be cut lower than the rest of the heel, so that the bearing should be equal upon the shoe.

The bearing surface should be leveled down carefully, and left a little higher than the sole, so that there can be no bearing of the sole upon the shoe. If the foot is flat and will not bear this, then the shoe must be lowered from the bearing of the sole. No definite rule can be given by which to explain how much must be cut away from the whole or any part of the foot. If the heels are strong and upright they should be cut down so that the bearing will be level, and the hoof look natural.

The Shoe

Should be proportioned in weight to the size of the foot and work of the horse. If the hoof is thin shelled and the horse is not worked much, the shoe should be light; but if the work is hard the shoes should be rather heavy. The form and size of the shoe should be

adapted to that of the foot, of an equal thickness from the heel to the toe, perfectly level on the bearing surface.

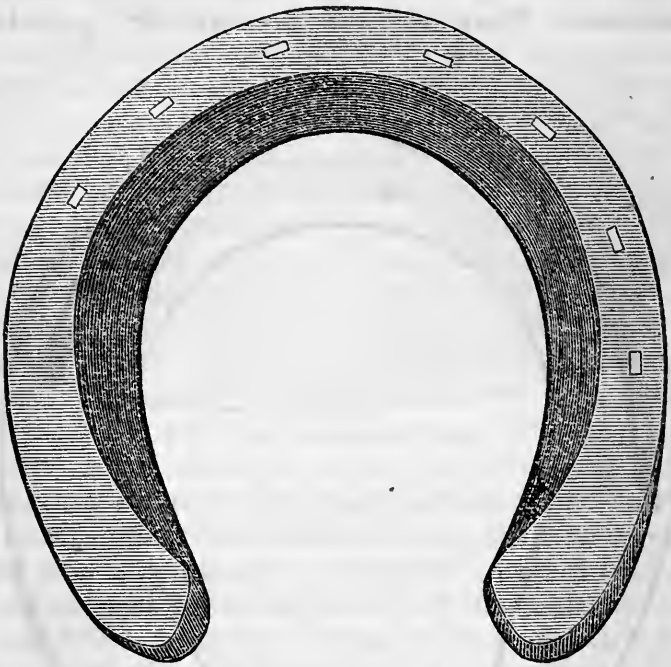


SHOE PROPERLY FITTED.

There is usually great carelessness in the manner of fitting and adapting the shoe to the size and form of the foot. The shoe should be fitted in size, so that when the hoof is rounded off a little from the clinches down, it will come out even with the crust from the toe to the turn of the heels, becoming a little wider at the heels, and long enough to extend back of the extreme bearing about a quarter of an inch, (see cut.)

The growth of the foot requires that the shoe should be long and wide enough at the heels to allow for the natural enlargement of the hoof in the time it is intended the shoe should be on, before being reset; for as the foot enlarges by growth, the shoe is brought forward, until it loses its original proportion and becomes too short and narrow, to allow for which, the shoe

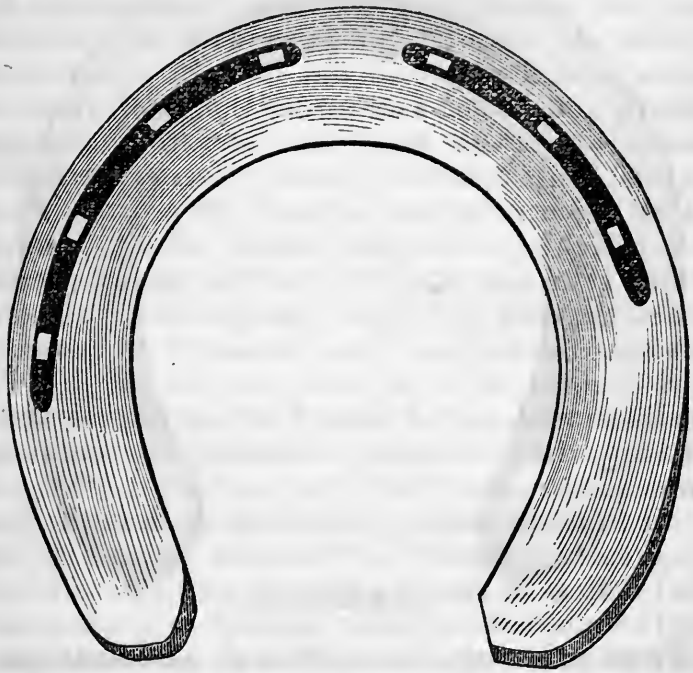
must be left as much wider and longer than the foot at the heels as it is supposed the foot will grow in the time it is intended the shoe should be on.



BEARING SURFACE LEVEL.

There is a very serious, though unintentional, fault in shoes as generally fitted. It is customary to lower the bearing surface of the shoe which is intended to be, and should be, perfectly level. But from carelessness or ignorance, they are in almost every instance largely concave at the heels, or the seating (*the inside edge, which is usually lowered from the bearing of the sole,*) is carried so far back at the heel that if the shoe is in the least too wide for the foot the heels rest on the concave surface of this

seating, which must force lateral restraint upon the heels, by their constant inward action when weight is thrown upon the foot, and thus cause contraction and soreness of the feet, which if continued may result in very serious consequences. This should be strictly guarded



GROUND SURFACE—POSITION OF NAILS.

against. The part upon which the heels rest should be perfectly level.

Nail holes and Nailing;

A great deal depends also on the location of the nail holes in the shoe, and the size and driving of the nails. If the smith were to examine

the thickness of the hoof of an ordinary well-bred horse, he would be perhaps surprised at its thinness, and he would see the importance, in the first place, of making the holes near the edge well forward in the toe, and of putting the shoe so far under the shell, as to betray into driving the nails too deeply into it, or of having the nails so large as to split and shatter the hoof. If the nail holes are made well into the shoe, and the shoe should be a little narrow or short, and be set well under the hoof, the nails must be driven very near, or into the quick, which must result in serious lameness or injury. Two objects therefore must govern the smith in punching the nail holes. First, making them so far forward in the toe as to prevent needless restraint upon the quarters. Second, so near the edge of the shoe as not to endanger driving the nails too deep in the crust. The nails should not be large, nor a greater number driven than is barely necessary to retain the shoe.

It must be remembered that, at best, the hoof is greatly shattered by the nails; that the horn is thickest at the toe, and the nailing well back to the quarters not only exposes to greater danger of pricking, but causes an injurious pressure upon the heels. If the horse is not used much, and the heels are rather square and upright, the quarters must be kept free. Have the nail holes made well forward on both sides, three on the inner and four on the outer side, or nail well back on the outside quarter, but well forward in the toe inside. As the foot now grows, the shoe will be carried to that side and forward, leaving the inside quarter free, thereby making both quarters as independent

of the restraint of the shoe as it is possible to do. Any increase in the number of nails to retain the shoe more firmly must not imply freedom to drive them back in the quarters. Let the holes be punched closer together in the toe. Care should be used not to file too deeply under the clinches, as is common, and in finishing off, the file should not be touched above the clinches, and below only enough to round the toe a little. There is a kind of *penchant* in most smiths to improve the shape of the foot by rasping and filing the whole surface to the hair. The outside of the hoof is much more dense and hard than the inside, the small spaces between the fibres of the horn are filled with a soft substance, the better to prevent a too rapid evaporation of moisture. If the whole surface of the hoof is rasped, the best part is not only likely to be cut away, but too rapid evaporation takes place, and the hoof is not only thereby weakened, but becomes dry, hard and contracted. If the horse is not used much, and stands on dry plank, this condition must be produced.

Contraction.

A contracted condition of the feet is produced so gradually that the owner may not notice the alteration of structure and diminished size of the hoof, until the horse becomes so tender footed and unable to travel, that it is found necessary to do something to restore the animal to a condition of usefulness. The hoofs seem to hold the same relation in the protection of the horse's feet, that boots or shoes do to those of the human feet. They are insensible horn, provided by nature for this purpose. If

like boots, from any cause they restrict too much the freedom of the circulation, or press upon the sensitive laminæ at any point, there will be the same consequences of inflammation. This is to be looked for at the heels and quarters, as by lateral restraint upon the quarters or under pressure of the shoe on the sole, or both, inflammation and injury is caused, inducing tenderness and lameness, and ultimately a change of structure that will make the horn unsound.

The first and primary object is to look for cause and remove it. Though usually given but little consideration by authors, contraction is, directly or indirectly, the cause of most trouble with the feet. Corns, founder, atrophy of the muscle of the shoulders, thickening of the lateral cartilage, navicular tritis or disease of the navicular joint, are largely dependent upon contraction. It is idle also to look for cure in any of the advertised means for this purpose. Ointments, elastic cushions, and the prevalent theories that I have seen advertised, do not reach the difficulty. Neither can any form of shoe alone be depended upon, however perfect and plausible they may appear. The foot must be properly prepared, when the shoe must be adapted to the condition and peculiarity of the case. A contracted foot is always strong and high at the heel. The horn is thick and hard and the commasures closed. Almost all elasticity is destroyed so far as freedom of expansion.

This horn must be removed and the foot permitted and encouraged to expand, and that means is best and most valuable that will restore the foot to its natural condition, and which is

to be aided by gentle but gradual expansion upon the heels. The feet should be softened by standing in warm water, or poulticing when they can be easily cut down to the live yielding sole, until the greatest elasticity is assured. If the frog is high and bony it may be cut down. Various forms of shoe are recommended, but the truth is, more depends upon the skill of preparing the feet and of making the shoe exactly adapted to the peculiarity of the case than upon the form of the shoe. If there is sufficient genius and skill available, the quarters may be sufficiently spread in nailing. First, fit the shoe accurately to the size of the hoof, from the toe to the heel, bearing surface level, having the nail holes well back in the quarters. Lay the shoe on accurately and mark the position of the nail holes on the sole with a prick or pencil; small holes may be bored in part way in the direction of the nails with a very small bit, not larger than the nail above the shoulder. Now make the shoe an eighth of an inch or a little less wider. Put it on and start all the nails, driving each a little in rotation until all are driven down. This will bring an even and direct pressure upon the quarters outward, but not enough to do any harm, which can be repeated from time to time by drawing out the nails and making the shoe a trifle wider.

A cheap and excellent shoe for expansion is made by Terral & Farren, of Batavia, N. Y., which if properly fitted and applied will answer an excellent purpose. Their application requires considerable skill, and their value is dependant upon the care and skill used in so graduating the pressure upon the quarters as not to excite inflammation. They will furnish

circulars, giving necessary details, &c., on application, by being addressed.

The feet should be kept soft by putting in a warm water bath, as hot as can be borne by the hand, at least one hour each day, or poultice with flax seed meal, or tying a few thicknesses of cloth around the coronet, keeping them damp while in the stable. When the feet are so diseased by contraction as to cause change of structure that impairs mobility, or if there is inflammation of the navicular joint, though carefully spreading the heels may palliate or improve the condition of the case, a radical cure need not be expected, though with proper surgical treatment in addition, many otherwise hopeless cases may be restored to a condition of usefulness. So much depends upon skill that it is hazardous to assume treating these difficulties, no matter what is attempted or advised to be done, even though a simple condition of contraction that would yield readily to proper treatment, can but rarely be cured by inexperienced persons who may assume the task.

This requires a discrimination founded upon a correct understanding of the condition and nature of the parts involved, and of the treatment best adapted to restore them to a healthy condition. Neither can this be done by every practical surgeon. The theories of writers, while plausible and good, do not enable a practical treatment for cure. I have given this subject much attention, having attended a course of lectures on shoeing and diseases of the feet, and incurred an expense of nearly a thousand dollars in illustrating the principles (as I understood them) of shoeing, and changes of structure excited by different causes, in

procuring models and morbid specimens, but I am frank in stating that I did not know how to cure corns and contractions practically, and I have not met a surgeon who did, until I became acquainted with Dr. Wm. Somerville, of Buffalo, N. Y. I would not imply an ignorance of the structure and relation of the parts, or of such theories and details as have been given by eminent writers, in any one of the many able veterinary surgeons with whom I have become acquainted in different parts of the country, and to whom I feel greatly indebted for many acts of assistance and kindness; but in reaching the point of difficulty in a direct practical manner, that would restore the feet to a healthy condition, Dr. Somerville is far in adance. And the better to fit myself to disseminate a correct knowledge not only of this duty but of the treatment of diseases in general, I have employed this eminent practitioner, at an extravagant expense, to instruct me in his theory and practice of treating disease, which he does on condition that I do not publish his treatment. Neither am I willing to make public a means of curing contraction and other causes of lameness, that have cost me so largely.

But I am happy to be able to assure owners of fine horses that are sore-footed or lame, from contraction and its consequences, that unless there are morbid changes excited that destroy the mobility, I can make them apparently sound in a short time.

Corns

Appear in the angle of the hoof near the heel. They are generally caused by the shoe being worn too long, causing the shell of the hoof to

grow over the shoe, which throws the weight upon the sole, or the angles between the bar and crust are not properly dressed out. If the descending heel of the coffin bone meets with too much resistance by want of elasticity in the sole at this place, the sensitive sole is liable to be so bruised and injured as to cause this effect. Corns are a simple contused wound of the sensitive sole. If of an ordinary character, upon cutting away the horn, there will be found a red spot; if very bad, the color will be a dark purple.

If this condition is neglected, matter may be formed, or the inflammation may cause the lateral cartilages which are attached to the heels of the coffin bone to become ossified, or even the accumulation of large bony deposits, which would destroy the mobility of the foot and cause considerable deformity.

The corn should be well cut out, and a little butyr of antimony applied to the part, or saturate well with pine gum, which is found to exude from the sap of pine trees. Fill the cavity with tow, and put on the shoe so fitted that there will be no pressure upon the part. The shoes should be re-set often until cured.

Quarter Crack.

When the hoof is dry and hard it is easily split. A piece of glue when very dry splits and breaks very easily if pounded upon, but if softened by moisture would only bend and be bruised. The hoof partakes of the character of glue. If very dry the fibers become dense and hard. If while the feet are in this condition the horse is driven fast on hard roads, the

hoof is liable to burst. If the hoof is thin and contracted, there is great danger of the inside quarters splitting.

Cut down the hoof back of the crack, so that there is no pressure of that part of the bearing surface upon the shoe, put on a bar shoe, cut across the split deeply at the edge of the hair with a firing iron. Next cut down the edges of the hoof so far as split extends, to the quick. Then soften and grow down the hoof rapidly by applying any good stimulating ointment. A mixture of equal portions of tar, lard and turpentine, is excellent for this purpose. The fitting of the shoe should be carefully attended to, the hoof grown down as rapidly as it is safe to do, and the part kept clean by covering it with a little tar, or a mixture of resin and tallow. There will not be a cure until a new hoof is grown down, which will take about six or eight months.

Interfering.

Some horses travel so close that the least neglect of having the shoe well under the quarter, and the part nicely dressed down, would cause a bruising and cutting of the opposite ankle. If you do not know what part of the hoof strikes the ankle, wind the ankle with a piece of bandage and daub it with some coloring matter; then trot the horse until some of this coloring is found on the hoof, which indicates the part that strikes. The shoe should be so formed and fitted as to come well under this portion of the hoof. To do this well, that side of the shoe should be made rather straight, with the web narrow, and the nail-holes well

forward in the toe; at all events there must be no nails driven into that part of the hoof that strikes, as the clinches would be likely to cut. If the toe *cork* is set well round, on the inside of the toe, and the foot is so fitted, or the shoe is so formed that the bearing of the inside of the foot is raised a little, there will be a tending in the ankle to be thrown out when borne upon. But the great object is to have the shoe fitted and filed smoothly, and set well under the quarters, so that after the hoof is rasped off all it is prudent to do, and rounded down carefully, the shoe sets far enough under not to endanger its cutting, yet support the hoof, and give a natural bearing to the foot. The difficulty will be that some portion of this part of the shoe, will be made to extend beyond the hoof, and the shoe is fitted and put on so roughly that it can scarcely be said to be fitted any smoother or better than is usually done, without regard to such a purpose. It is always best to keep the bearing natural by trimming the foot level, and making the shoe of an even thickness, but set under and filed smoothly. If this will not do, raise the inside a little. Driving young horses to sulky will often cause interfering; getting a horse in good condition will often overcome the difficulty. If the ankles are cut or sore, they should be protected with pads until well. If the owner values the animal highly, he should give such shoeing his personal attention.

Pricking.

If the smith should happen to drive a nail so deep into the crust as to strike the sensitive

part, he should by no means drive a nail into that hole again, so that if matter is formed by the injury, there will be an outlet for it. If the horse becomes lame after being shod, examine the foot carefully. If pricked by driving any of the nails too near the quick, there will be heat and tenderness in the hoof easily discovered. Have the shoe taken off, and cut down to where the nail strikes the quick, enough to make room for any matter that may have formed to escape; then poultice with flax-seed meal until the inflammation is reduced, when a little tar, resin, or tallow, or something of this kind, should be put on, and the opening filled up with a little tow, to prevent gravel or dirt from getting in, and the shoe put on again.

Weak Heels.

Cutting down too close and fitting the shoes roughly, so that the horse wears and breaks down, will cause the heels to be low and sensitive. If there is contraction, the arteries supplying blood to the quarters, by which the growth of horn is stimulated, are obstructed, and in consequence the quarters grow slowly, though the toe grows fast enough. Such feet should be simply leveled down with the rasp carefully, and the shoe fitted to touch every part of the bearing surface at the heels.

Shoes.

It should be borne in mind that that form of shoe which accords with the foot in making the bearing natural, preserves its elasticity, and protects it from injury, is best. If we examine

the foot it will be found concave. This is the best form to enable a fulcrum that will prevent slipping. If we would imitate and carry out in the form of the shoe, that of the foot, it should be also concave, or thick at the outer edge and beveled upward to the inner edge on the ground surface. Such a shoe will not ball, prevents slipping, is lighter, and would certainly enable more speed on a track if at all wet. *Amateurs who have an opportunity, should see my models of shoes of different patterns.*

Shoes for summer wear should be level, of an equal thickness from toe to heel. If the roads are soft this is certainly advisable, to give the frog pressure. If shoes are made with corks, the inside ones should be rounded so as not to cut the feet. The outside ones will prevent slipping. My Maine snow shoe is undoubtedly the best for winter use; will not ball, and protects the feet most effectually from being bruised or injured

The bearing surface of all shoes should be level, and come exactly under the wall of the hoof all the way round. The nails should be as small, and as few, and as far forward in the toe as will retain the shoe safely, the object being to protect the foot and keep it healthy. When from any cause there is an undue absorption of moisture, making the frog and hoof dry and hard, either from inactivity by standing on a dry floor, or driving on dry hard roads, or both, it must be supplied by artificial means. Stuff or fill the feet with flax-seed meal to which has been added a little wood ashes mixed with water. It will stick. Or wet cloths may be tied around the hoof. If this treatment is desired to be energetic, the

feet must be put in water, as hot as can be borne, for at least one hour a day. But this is the province of a thorough practitioner to direct.

The usual paliative means of rubber cushions and such means, put between the hoof to cure soreness and lameness, are of no account, since they do not reach the cause of difficulty. The nailing of the shoe must necessarily be so tight as to press out all the elasticity there is, and in addition, the heels cut through such means so quickly that they will not prove of value.

Shoes should be re-set once in from four to six weeks. For light, occasional use, not more than seven nails should be driven—four on the outside, and three on the inside—well forward. The shoe should come well out under the toe, so that there is no necessity for more than touching the edge a little to reach the shoe. It is much better, easier and cheaper, to keep the feet healthy than to cure them. It is wise in shoers to be patient and do the work well, and owners should remember that extra care and skill deserves extra compensation. It is hoped the few explanations given will aid to a better understanding of the duty.

DISEASES AND THEIR TREATMENT.

To treat diseases successfully requires a practical knowledge of their nature, the nature and effect of medicine, and the relation in which it is to be used to produce the effects desired. Even the most eminent practitioners are not master of this knowledge. Their researches only develop the necessity of aiding by such means and treatment as will conserve best to regulate the derangement and grow into health. If this is true, and it cannot be doubted, it is much wiser and better for those not familiar with the nature and use of medicine not to attempt doing too much; and above all, not to give dangerous remedies or so much of any kind as to derange and injure the system.

More attention should be given to the prevention of causes. This is your province. Now, it is a common custom to drive horses at the top of their speed until exhausted, and in a reeking sweat, perhaps every pore open, hitch the horse in some exposed place to a bleak, piercing wind. If a thin blanket is put on it is regarded as proof of unusual care. The drivers go to a warm room, pass time in drinking perhaps for hours, warm and comfortable the drive is resumed. The poor horse, chilled with cold, is urged forward in the most merciless manner to the end of the drive. The horse is put in a stall, with no more care than a blanket thrown on. The system, weakened and chilled, yields,

and the horse has pleurisy, inflammation of the lungs, sore throat or laminitis (founder).

Men, too, of intelligence, who claim to be horsemen, abuse and expose their horses in this way. Is not such treatment of the most generous and noble animal in the world, not only inexcusable, but *damning;* and is it any wonder that many naturally fine horses are spoilt. Self-interest, and the sentiment of common feeling, should actuate to reasonable treatment and care of horses. Has the reader been guilty of this fault, let him be above the guilt of such folly in future. If the horse is sick, use reason. Don't bleed and pour down the poor animal such medicines as every ignorant bystander may recommend. The belief is too prevalent that every ailment is based upon botts or colic, and that if medicine will not cure it will not harm. This is all wrong. If you do not know what the trouble is do not commit the error of doing anything more than put the horse in a quiet, clean and well ventilated stall. If cold weather, blanket warmly and nurse, by giving good clean food, feeding regularly, adding roots of some kind—carrots until cold weather sets in, potatoes after, or a bran mash from one to three times a week, at night. If the horse is warm, water but little, if any, unless moved. Do not let him stand where a current of air can strike him. If off his feed, give rest and bran mash or a little grass. The treatment given here must necessarily be simple, to which will be found added many favorite remedies of great value.

Inflammation of the Lungs.

Under this head is usually comprised all the modifications and extremes of inflammation and congestion, by which the circulation is impeded and weakened and the strength prostrated, and is usually classed under two heads, namely: Pleurisy and Inflammation of the Lungs. By pleurisy—that the pleura or vicera covering and surrounding the lungs in the cavity of the chest is inflammed. By inflammation of lungs, or pneumonia—when the lungs are so inflammed and weakened in their action by congestion as to prevent ability to take in or expel the requisite quantity of air to support life, or to a degree that would keep the system to its normal standard. These terms are, however, in a practical sense, too vague and indefinite to give anything like a correct understanding of the disease or the treatment to be pursued, since there are modifications and extremes of this disease that require entirely different treatment from those first named, and upon a correct diagnosis and treatment of which the life of the horse will often depend. These peculiarities are congestion and typhoid pneumonia.

As inflammation is a weakened or obstructed condition of the circulation, it implies congestion. But the term is usually applied to such an acute and marked prostration of the action of the lungs that they cannot act, from a too great engorgement of blood, by which the horse, if not promptly relieved, must soon die from suffocation. Typhoid pneumonia, on the contrary, is a low order of this disease. The horse has no appetite, will not eat, stands for days with head down, prostrated almost paralized in action,

pulse light and accelerated or low and feeble. This condition continues from four to five or six days, the pulse going up or down according to the way the disease terminates. In seven or eight days the animal passes a large quantity of water, and if properly treated a normal condition of health is gradually resumed. This form of "lung fever" is usually epidemic, often attacking in succession all the horses in a stable.

These peculiarities of extreme require treatment adapted to each, and so essential is this, that what would certainly cure, and is absolutely essential in one, would be certain death to another.

Hence, in pleurisy, bleeding will kill, by causing dropsy and ultimate death. While in severe congestion it becomes one of the most essential and valuable of adjuncts; while again in the typhoid type, it would be almost certain destruction.

Even practitioners, of boastful skill and experience, fail to a great extent in diagnosing these differences, unless very clearly marked, and in fact the typhoid form, which is quite common, is not referred to in any books on veterinary practice, and often sweeps off in succession the best horses in a stable, if ignorantly treated. Yet so easily does this disease yield to proper treatment, that it may be almost assumed that every horse that dies is killed by ignorant treatment. Now, it is useless to try to explain these nicely merging distinctions or give the exact treatment for each, as this would only confuse and thus defeat the objeet for which reference is designed. Hence, I will give such simple treatment as will be most safe and practical for the amateur to use in case of

emergency. There is a delicacy, energy and skill essential in the treatment of the deeper and more complicated forms of lung disease, that cannot be comprehended or practiced from any explanation that may be given here. And it is well to remind also, that any successful veterinary surgeon who has an ordinary regard for his own interest, will not throw his favorite treatment, by publishing in any general work, into the hands of every quack who may have access to its pages. The object of the practitioner in the treatment of inflammation or congestion, is to give plenty of fresh air and the use of such treatment as will most easily and naturally equalize the circulation, by the use of sedatives and counter irritation. Bleeding, which is the principle reliance of most practitioners, especially self-constituted doctors, would be almost certain death in pluerisy, by so weakening the capillaries as to excite a watery effusion that would ultimately destroy life or render the animal worthless, by causing or terminating in hydrathorax or dropsy of the chest. It is as surely destructive when of a typhoid form. It is unnecessary and injudicious in treating a simple condition of inflammation, and is only admissible and necessary when there is so severe a condition of congestion that the most powerful and radical means must be used to relieve and save the animal.

Pluerisy.

When the membrane covering the lungs and internal walls of the chest, without the lungs being involved in inflammation, the disease is called pleurisy. When the lungs partake of

this inflammatory action it is termed pleuro-pneumonia. It is supposed there is so much sympathy of the parts that they are generally to a greater or less extent involved.

The attack may be sudden or gradual, the horse showing indisposition for days previous. A hard drive, over-exertion, exposure to cold, washing in cold water when warm, or in fact any cause that will repress respiration. The horse will be dull and heavy in action for a day or two, unwilling to lie down, pulse not much disturbed, will grunt or groan by moving on account of the pleura of the lungs and sides rubbing. Breathing at the flanks show a little acceleration. As the disease increases the fever increases, pulse quicker, membrane of the eye and nose becomes of a deeper red, and so on until the horse is relieved. Blanket warmly, put in a comfortable stall where there will be pure air. Apply some strong stimulent to the legs and on each side of the body and breast, such as mustard made into paste and rubbed thoroughly in, or a liniment, composed of aqua-amonia reduced one-half with water, or any strong stimulating liniment, should be applied three or four times a day, and give fifteen or twenty drops of the mixture of aconite and veratrum as used for inflammation of the lungs. Keep up the irritation on the legs and body. Repeat the medicine given internally every twenty or thirty minutes until relieved, lessening or increasing the dose in quantity and frequency according to the severity of the case. Feed lightly and carefully for some time, giving mashes in which is to be put salt petre, crude antimony and sulphur, as in the treatment of inflammation of the lungs.

Pneumonia, or Inflammation of the Lungs.

An inflammatory, or highly congested condition of the lungs, caused by high feeding, keeping in close badly ventilated stables; then subjected to violent exercise or sudden changes from heat to cold. Driving fast against a cold wind, or cold applied to the external surface of a heated animal, by which the blood is driven from the skin and extremities to the internal organs.

The disease is usually noticeable first by the horse having a severe shivering fit; he refuses his food, hangs the head between the forelegs or upon the manger, will not move or lie down, the breathing is quick and short, the pulse is sometimes full and quick, but generally quick and weak, scarcely perceptible, legs, ears and muzzle cold; if the attack is sudden, coming on after violent exertion, and the pulse is quite weak or scarcely perceptible; and if by putting the ear to the side no sound is discovered, the disease is what is termed congestive pneumonia. This condition requires prompt energetic treatment.

For the first condition, or inflammation of lungs, clothe warmly and treat as explained for pleurisy, applying strong counter irritation to the breast, sides and legs, and give of the following mixture:

½ oz. tinc. veratum viride.
¼ oz. aconite (mother tinc.)
4 oz. water.

Dose—From fifteen to thirty drops on the tongue, repeated in from twenty to thirty

minutes, according to the size of the horse and severity of the case, until relieved. A few swallows of water should be given occasionally, and if the horse will drink, the medicine may be given in the water. Improvement will be denoted by the pulse full and regular and the expression and actions being lively. Oil or physic of any sort must not be given. There is so much disposition to sympathy that any irritation excited by physicing would aggravate the disease or cause inflammation of the bowels and death. Injections are admissible. If the horse is prostrated, but little pulse, no action of the lungs, membranes of the nose and eyes high colored, possibly a few drops of blood from the nose, take six or eight quarts of blood from the neck vein, giving sedatives and applying counter irritation as before explained.

Diet must be low for some time after. Gruel and little bran mashes, a few potatoes, carrots or grass; no oats or corn, and but very little, if any, hay. Would give a bran mash daily for two weeks, in which a tablespoonful of the following mixture should be put for the purpose of preventing dropsy of the chest:

4 oz. nitrate potassa (salt petre).
1 oz. crude antimony.
3 oz. sulphur.

Nitrate of potassa and antimony should be finely pulverized; then add the sulphur, and mix the whole together. Also one of the best of remedies for recruiting a horse hide-bound or out of sorts.

Dose—A tablespoonful in a bran mash daily.

It would be useless to attempt explanation of treatment for typhoid pneumonia, as it is a disease that requires great delicacy and care, and could not be understood from any limited explanation that may be inserted. Your safest course is to nurse carefully, doing nothing more, and let the horse take his chance. Safer for you than to meddle with the case.

Inflammation of the Bowels.

For the first few hours the horse is uneasy, paws, looks around at the side, the pulse is slightly accelerated and wiry. As the disease advances the intermissions between the attack becomes less, pulse quicker, running from seventy to eighty beats in a minute, in some instances even faster, lies down and gets up, shows much pain, no swelling of sides. Now begins to exhibit fever, bowels constipated, urine high colored and scanty—generally caused by constipation of bowels, hard driving over-purging or looseness of bowels, drinking cold water when warm. Constipation is, however, the principal cause of the disease, and when this is the case, the first and most important condition of relief is to get an action of the bowels. Give a quart of raw linseed oil.

If scours or over-purging, give an ounce and a half of the tinc. opium with six ounces of water. But in order to suppress the inflammation it is necessary to bleed immediately from the neck vein from six to ten quarts of blood, according to the strength and size of the ani-

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NOTE.—If constipation is very great, add from four to six drops of croton oil.

mal. In extreme cases bleeding may be repeated to the extent of four to six quarts in three or four hours. If much pain exists in constipation, give from one to three ounces tincture asafœtida, gruel, roots, grass and bran mash. Feed lightly for a week at least, giving gruel, roots, grass and bran mash, and keep quiet. No exercise for several days, if there is great danger of a relapse.

Colic.

There are two kinds of colic—SPASMODIC and FLATULENT—and it is of the greatest importance that they should be distinguished and the treatment made proper to each. I will give first the simplest and safest treatment for each, after which I will include a remedy, if at hand, that may be relied upon for either, and is alone worth more than the cost of the book and instructions.

First—*Spasmodic Colic.* Premonatory symptoms are sudden. The animal paws violently, showing evidences of great distress, shifting his position almost constantly and manifesting a desire to lie down. In a few minutes these symptoms disappear and the horse is easy. But the same uneasiness soon returns, increasing in severity until the animal cannot be kept upon his feet; the pulse is full, scarcely altered from its normal condition. As the disease advances the symptoms become more severe, the animal at times throwing himself down with force, regardless of consequences, looks anxiously at the sides, sometimes snapping with the teeth at the sides, looking anxiously at the belly and striking upward with the hind feet, show-

ing almost the same symptoms of inflammation of the bowels. The condition of the pulse and the remission of pain being the distinguishing features. In addition to which, the extremities are of a natural temperature. There are frequent but ineffectual efforts to pass water, and a cold sweat breaks out over the whole body.

The common causes are application of cold water to the body, drinking cold water when in a heated condition, costiveness, unwholesome food, &c. The simplest and surest treatment is bleeding. Being of a spasmodic nature, and extracting blood being the quickest and surest method of relaxing the system, it is the most reliable means of cure. Take from eight to twelve quarts of blood from the neck vein, according to the severity of the attack and the size of the horse. Always in bleeding make the orifice large and extract the blood as quickly as possible. If not bled, give three ounces of laudanum and a pint of raw linseed oil. If not better in an hour give two ounces of laudanum and the same quantity of oil.

Flatulent Colic. — Symptoms same as spasmodic colic, with the difference of so great an accumulation of gas in the stomach and intestines that the belly is swelled, and if not relieved the accumulation of gas may become so great that the diaphram or walls of the stomach are forced to give way and the horse is suffocated. This disease will often prove fatal in a few hours, and sometimes in from one to two hours.

In this case bleeding must not be attempted on any account, neither must there be any fluids forced into the rectum. The animal loses strength rapidly, and to bleed prostrates too

much and checks perspiration without lessening the accumulation of gas, and death must almost surely result, while the bowels are already so disturbed that any attempt to inject fluids of any kind only increases the mischief. Blanket warmly in order to keep up the perspiration, and give the following immediately: 1 oz. sulphuric ether, 2 oz. peppermint, 1 pint water, to be taken in one dose. If not relieved repeat in thirty minutes, omitting half of the peppermint, and all at subsequent repetitions. This treatment must be repeated every half hour, giving more or less according to the severity of the case until relieved. If much bloated, do not permit the horse to lie down as, the shock occasioned by falling or rolling will occasion so much pressure upon the diaphram as to break it and the horse must die almost instantly from suffocation. I would here state that this is a form of inflammation that runs its course very quick, and must be treated promptly but coolly. There must not be any experimenting in the way of bleeding, or running, or physicing, as a fatal result will be almost certain to follow. It is a form of colic that baffles the majority of the sharp practitioners. The treatment has been varied in every possible form to no purpose. Of course there are other resources of great value, but it would be useless to give them here, as it would be likely to confuse and win the attention from treatment which is safer for inexperienced persons than any complicated treatment that may be attempted however valuable. The principle cause of the disease is constipation by feeding too much hay and straw. Keep the bowels in a loose active condition, and there is but little danger of such a result.

For Colic in Horses.

Sulph. ether 1 pint, aromatic spirits ammonia 1 pint, sweet spirits nitre 2 pints, opium ¼ lb., asafœtida (pure) ½ lb., camphor ½ lb. Put it in a large bottle, let it stand fourteen days, with frequent shaking, and it will be fit to use. Dose: One ounce, more or less, according to the severity of the case; once in from thirty minutes to an hour. Should be given in a little water, which may be sweetened. Owners of valuable horses should keep a supply of this medicine, ready for use. But it is always best when possible to employ a veterinary surgeon, if within reach of one who has reputation for success.

Inflammation of the Kidneys.

Symptoms: A constant desire to urinate, pain on pressing the loins, fever, great thirst, urine highly colored. Treatment: If the animal is plethoric, bleeding is advantageous; mustard and vinegar should be applied to the loins frequently and effectually. Give internally in the early stage of the disease, from five to ten drops of aconite.

Inflammation of Bladder.

This disease is usually sympathetic, occurring oftener in connection with other diseases, than of itself.

Symptoms: Frequent voiding of urine in small quantities, quick pulse, looks frequently at flanks, paws violently, bladder contracted, small, hard and tender to the touch. Treatment: Injections of water; 1 gallon, in which

put 3 ozs. laudanum; throw into the fundament two or three times a day. Give internally 1 quart linseed oil, and bathe loins frequently with mustard and vinegar. Give in his water, 2 drachms extract of belladonna; once every day, until restored. This is a dangerous disease, and one best treated by a veterinary surgeon, when to be obtained.

Diarrhœa.

Symptoms: Water discharges, fever and great prostration of strength. Treatment: Keep warm; give injections of starch made thin. Drench with the following: Ale 1 quart, powdered catechu 2 drachms, laudanum ½ oz., powdered caraway seeds, ½ oz.; to be repeated every morning until the purging ceases.

Stomach Staggers.

This disease arises from an overloaded condition of the stomach, causing pressure upon the heart and lungs, thus interfering with the circulation of the blood, causing stupor, and a disposition to pitch forward, resting the head against the wall, or any object which may be in the way. Treatment: Give the following ball as soon as possible: Barbadoes aloes 1 oz., ginger 1 drachm, gentian 1 drachm, molasses sufficient to form the ball. If this does not operate in twenty-four hours, repeat the dose. Give an injection of soap and water two or three times a day, until the bowels are opened. Dissolve 2 drachms extract belladona in a pail of water; give to drink once a day for a week. No food of any kind should be given for

twenty-four hours. Animals subject to this disease should not have corn, and be very sparingly fed.

Bloodly Urine

Is generally the result of injuries of the loins, unwholesome food, violent exercise, etc. Treatment: Give plenty linseed tea to drink; if the animal refuses it, drench him. Give internally once a day, one of the following pills: Sugar of lead 1 oz., linseed meal two ozs.; mix with molasses, and divide into eight parts.

Scratches.

Wash well with castile soap and water, and then make a soap lather and add powdered charcoal to make a paste; apply with brush and let it dry, after which it can be rubbed off. An excellent remedy is as follows: Colodion 1 oz., castor oil 2 ozs.; mix; bathe the parts when perfectly dry; otherwise it will be of no service. Give purging ball.

Grease Heels.

This is a white, offensive, greasy discharge from the heels of the horse, the skin becomes hot, tender and swollen; the acrid character of the discharge often causes large portions of the skin to slough away, leaving an ugly sore behind. Treatment: Open the bowels with the following ball: Barbadoes aloes 1 oz., pulverized gentian root 2 drachms, pulverized ginger 1 drachm, water sufficient to make the ball. Wash the parts well, and poultice for two or three days with the following: Flax-seed meal

mixed with a solution of 2 drachms sulphate of zinc to a pint of water, which keep clean, and bathe frequently with glycerine, or the solution of zinc, or a solution of the chloride of lime, may be used; or the bichloride of murcury may be used in inveterate cases, with good results, provided it is not repeated oftener than once a week.

Laminitis, or Founder.

Symptoms in the acute state: A disposition to lie down, pulse quickened, feet hot and tender; the animal throws his weight on his hind feet, the front ones being extended forward; the symptoms of this disease are well known to every horseman.

Treatment: If plethoric, bleed freely, foment the feet with hot water, and poultice them for several days, give copious injections of soap and water, and give the following ball: Barbadoes aloes, 1 ounce; ginger, pulverized, 1 drachm; gentian, pulverized, 2 drachm; mix with molasses.

If the disease is allowed to run into the chronic form, the animal will always have a paddling gait, hence the necessity of prompt and efficient treatment.

Distemper.

All catarrhal affections are classed under this head by the ordinary observer. We refer to it in its simple form, as we usually find it in colts soon after being stabled. If there is a swelling under the jaws, poultice as in strangles, and apply mustard and vinegar, or some good irritant,

and give internally one of the following powders in the feed: pulverized gentian 2 ounces, sulph. copper, 1 ounce, pulverized ginger, 6 drachms—mix and divide into eight powders.

Poll Evil.

Symptoms: A swelling or tumor on the poll of the head. Treatment: This is most successful by extirpation with the knife; local and constitutional treatment will often succeed. As soon as the tumor becomes soft, it should be opened, and a solution of sulph. of zinc 1 oz., acetate of lead 1½ ozs., and water 2 quarts, should be thrown into the abcess once a day. Give internally ½ drachm doses of nux vomica, once a day for a week. Keep the bowels open, but not too purging.

Fistula of the Withers,

Is the same disease, and requires the same treatment.

Stone in the Bladder.

These may exist along time in the bladder before any symptoms arise indicating their presence. The first symptoms of stone are frequent efforts to urinate, voiding small quantities usually of a thick whitish color; as the stones increase in size the symptoms become more aggravated, colicky pains are indicated, rendering it difficult to distinguish the difference; the animal paws, kicks at his belly, lies down, rolls, and gets up quickly. In some cases these obstructions are dissolved by the administration of muriatic acid, 2 drachms in a

pail of water once a day. Where this fails an operation for the removal of the stone is the only remedy.

Quitter.

This is a formation of pus between the hoof and the soft structure within; a sore at the coronet or upper part of the foot, which at first is a hard, smooth tumor, soon becoming soft, and breaks, discharging quantities of pus. Treatment: Poultice the foot for several days with flax-seed meal. As soon as the hoof becomes soft, cut away all loose portions, but no more, and inject with a syringe either of the following once a day: Chloride of zinc, 2 drachms, dissolved in 1 pint of water; or sulphate of zinc, 1½ drachms in 1 pint of water; or nitrate of silver, 2 drachms in a pint of water; or glycerine may be used with advantage. Before using the wash have the foot well cleaned with castile soap and water.

Mange.

This is a disease of the skin identical with the itch in the human family. The hair comes off in spots which generally blend together, causing scabby patches; and the skin thickens and puckers along the neck.

Treatment: Take the horse in the sun and scrub him thoroughly all over with castile soap and water, then wash him well from head to tail with gas water, in which put two drachms white hellebore to the gallon. He must now be put in another stall distant from the one in which he has been standing; thus treated it rarely requires more than one washing to effect

a permanent cure. The harness should be thoroughly scrubbed and put away for six or eight weeks. These precautions are necessary to success in this otherwise troublesome disease.

Surfeit.

This is a scurfy eruption all over the body, arising from an impure condition of the blood, causing plethora in one animal, and general debility, etc., in another. The legs swell, the hair is rough and staring, the membrane lining in the nose presents a bluish cast.

Give the following: Barbadoes aloes 1 ounce, nitrate of potassa 2 drachms, gentian 1 drachm, make into a ball with water; follow this with the following powder: Nitrate of potassa 1 oz., pulverized sulphur 6 ounces, black antimony 2 ounces; mix and divide into 16 powders, give one morning and night.

Saddle Galls.

These are too well known to horsemen to require any special remarks regarding their cause, etc.

Treatment: Bathe the parts two or three times a day with equal parts of tincture of myrrh and tincture of aloes; or collodion 1 ounce, castor oil 2 ounces, mixed together; or glycerine is a very good remedy.

Profuse Staling.

The causes of this disease are the improper use of diuretic medicines, or saltpeter, resin, etc. Unwholesome food will sometimes pro-

duce it. Treatment: Give one of the following balls every night: Powdered opium ½ ounce, powdered kino 1 ounce, prepared chalk 1 ounce; mix with molasses and make six balls.

Inflammation of the Brain.

Mad staggers, as this disease is called, arises from various causes. Blows over the head will produce it, over-feeding, a tight collar, powerful stimulents, etc. Symptoms: The animal at first is dull, and moves with apparent reluctance; the membranes dividing the eyelids and nose are much reddened, pulse full and quick, appetite lost, a vacant stare about the eyes, ending in delirium or madness. Everything around the animal is destroyed or injured; he continues his ravings until exhausted.

Treatment: Open the jugular vein as quick as possible; this should be done before the mad stage comes on, or it is too late to be of much service. Open the bowels freely; give the following: Barbadoes aloes 1 ounce, croton oil 10 drops, ginger 1 drachm; mix with molasses or honey. Give tobacco smoke injections if convenient, or soap and water will answer the purpose; give on the tongue every two hours ten drops of tincture of aconite, until eight doses have been given, and then stop the aconite. Give cold water to drink and apply cold water bandages to the head, or bags of ice would be better; give no food for twelve hours after relief is obtained.

Locked Jaw.

This is one of the most troublesome and uncertain diseases with which the veterinary

surgeon has to combat. It is technically called tetanus. It arises generally from nail wounds in the feet, sharp metallic substances taken into and wounding the stomach or intestines. Bots are said to be occasionally the cause of locked jaw, etc. The first symptoms of the disease are observed about the ninth or tenth day after the injury is done, which are a straggling or stiffness of the hind legs, to which succeeds in a few days, the following: On elevating the head, a spasmotic motion of the membrane in the inner corner of the eye will be observed, showing little more than the white of the eye, the muscles of the jaw become rigid, the tongue is swollen, and the mouth filled with saliva, the ears are erect, the nose poked out, the nostrils expand, the respiration becomes disturbed, and finally the jaws become firmly set, and the bowels are constipated.

Treatment: That which I have found most successful is the early administration of the following: Tincture of aconite 2 drachms, tinct of belladonna 2 drachms, water ½ oz.; mix, and give 40 drops every four hours on the tongue. Keep a ball of aloes in the mouth for several days; there is no fear of giving too much; I have frequently given half a pound in the course of a few days, with good results. Hydrocyanic acid 20 drops, in little water, and put upon the tongue every four hours, is an excellent remedy. Foment the jaws with bags of hops steeped in hot water, and bathe the line of the back, from the pole to the croup, with mustard and with vinegar. Be careful not to allow the animal to be uneccessary excited by noises and bustle about him, but go around him very quietly. Keep a pail of bran slop

before him all the time. If the foot has been injured, poultice with flax-seed meal, and keep the wound open until healthy action has been established.

Rheumatism.

This disease is quite common in the Western States. The symptoms are: stiffness, lameness, and shifting from one limb to another; sometimes tumefaction is observable about the extremities. The lameness is sometimes absent, and appears to be influenced by changes in the weather.

For treatment, poultice the feet with mustard and flax-seed meal. Give internally, of nux vomica 1 oz., pulverized gentian root 1½ ozs., pulverized ginger 1 oz. Mix and divide into twelve powders; give one every night in the feed.

If this fails, and the animal is plethoric, bleed freely and give a strong cathartic. Follow every morning with one of the following balls: Pine tar 2 ozs., pulverized gentian root 1 oz. Mix well together, and divide into eight balls. Keep the body warm, and give no corn.

Worms.

Thousands of animals die annually from the ravages of these pests, without the true cause being even suspected; especially is this the case in the young of the mare, cow, sheep and pig.

Deising, a German author, in his work on Eutoyoa, mentions twenty varieties of worms

belonging to the horse, nineteen to the ox, sixteen to the sheep, etc., yet veterinary writers have mentioned but five or six of these varieties as belonging to our domestic animals, the symptoms of which have been as imperfectly described by them. Each variety of worm has its characteristic symptoms, viz: In bots, we have rarely loss of condition, but when the bots become troublesome, colicky pains, gasping, quickened respiration, staring or haggard expression of the eye, with a strong tendency to inflammation of the bowels, will be observed. In most other varieties of worms the symptoms are: debility, feebleness, sluggish movements, emaciation, staring coat, hide bound, and skin covered with scurvy, blotches, rigidity of loins, small, feeble, but slightly accelerated pulse, respiration slow, tucked up belly, pallid appearance of the lining of the lip; irregular, capricious, but persistent appetite, badly digested fæces, agitation of the heart and tail, and where the ascarides (fundament worms) exist, a whitish or yellowish white substance will be found about the fundament, indicated also by rubbing the tail.

The treatment of these parasites heretofore have not been very satisfactory. The remedies most popular are: tartar emetic, calomel, pink root, terpentine, arsenic, green vitriol, kino, etc. The following will be found very useful: Calomel 3 drachms, tartar emetic 1 drachm. Mix and divide into three powders, one to be given at night for three successive nights; to be followed in twenty-four hours with a good purging ball.

Bots

Are the bugbear of the would be wise horseman. I would say that all respectable authors and practitioners, do not try to doctor for bots. If you imagine your horse to have bots, give an ounce of sulphuric ether in a pint of linseed oil. This is a favorite remedy, and I insert it to gratify those who insist on treating for such a disease. This treatment will cause bots to pass through the system.

Lampas.

This disease will be found in colts during the period of dentition. In many cases it causes little or no inconvenience. When the animal refuses to feed, in consequence of lampas, all that is necessary to be done is to lance the gums in several places. An ordinary pocket knife will answer the purpose. Give soft food for a few days, and administer the following, made into a ball: Barbadoes aloes 4 drachms, nitrate potassa 2 drachms, ginger pulverized 2 drachms; mix with molasses.

Sore Mouth.

The lips frequently become sore at the angles of the mouth, from cutting or bruising of the bit. Tincture of myrrh and aloes, equal parts, applied to the sore will soon cause it to heal.

Wolf Teeth.

These teeth are found in all colts at some period from the first to the fifth year, but in a

large majority of them, they are shed soon after they make their appearance. What their function is I do not know. I have not found them to exert any influence over the eyes. If you wish them removed, pull them out with the dentist's forceps.

Sore Throat.

Symptoms: Difficulty in swallowing, fever, cough, stiffness about the head, etc. Treatment: Aqua ammonia 2 ounces, tincture cantharides 1 ounce, linseed oil 8 ounces, oil origanum 2 drachms. Mix all well together and shake before using. Apply externally to the throat all the way down, and give the following ball: Barbadoes aloes 2 drachms, nitre 2 drachms. Mix with molasses. Give one night and morning until the bowels are relaxed.

Strangles.

This is another form of sore throat, which, except in the hands of the skillful veterinary surgeon, frequently proves fatal. The throat swells from ear to ear, breathes heavily, flanks heave, the animal breaks out in a profuse perspiration, breathing becomes loud and difficult, and unless relieved dies a violent death. Treatment: Poultice the throat with flaxseed meal, or bread and milk; a turnip poultice will answer the purpose. The nostrils should be well steamed, mustard and vinegar should be freely applied to the throat until it becomes soft, and then the swelling should be lanced, when the animal is quickly relieved.

Influenza.

Spring and fall are the seasons most productive of epizootic (epidemic) catarrh. One year it assumes a mild form, the next, perhaps, a malignant one. Influenza is known under the common name of pink-eye distemper.

Symptoms: These vary very considerable in different animals. The usual or leading symptoms are: Slight watery or thin mucous discharges from the nose, eyelids presenting a reddish or orange red appearance; matter collects in the corners of the eyes, pulse feeble, great debility, as shown by the quick, feeble action of the heart—symptom rarely absent, membrane of nose much reddened, sore throat and cough; occasionally the feet becomes fevered as a founder, causing much stiffness, which may easily be mistaken for that disease. Treatment: This being a typhoid disease requires a sustaining treatment, or our success will be very doubtful. In the early stage of the disease give the first two days ten drops of tincture of aconite, or bryonia, in a little water, every six hours, after which give a pail of water to drink once a day, 1 ounce of spirits of nitre, or 2 drachms of extract of belladonna; and give in the feed, three times a day, one of the following powders: Gentian root, saltpetre and anise seed, of each 1 ounce, sulphate of quinine 1 drachm; mix and divide into eight powders; or, powdered cinchona and powdered quassia, of each 2 ounces, powdered anise seed 1 ounce; mix and divide into four powders. The throat should be bathed with mustard and vinegar, or with linseed oil 3 ounces, spirits of hartshorn 1 ounce, mixed together. No hay or corn should

be given, but scalded oats or wheat bran, with linseed tea, or oatmeal gruel, should constitute the diet; a few carrots would be very good, and above all, good nursing is very desirable.

Bronchitis.

This is an inflammation of the bronchial tubes, as its name implies, the air tubes of the lungs. It is usually preceded by a shivering fit, the mouth is hot and full of saliva, the throat is sore, and if pressed upon excites a painful cough, discharge from the nose, appetite lost, pulse quick and respiration labored, eyelids and nostrils reddened; on applying the ear to the side a gurgling sound is heard.

Treatment: Give the following ball in the early stage of the disease: Nitrate of potassa, pulverized digitalis and tartrate of antimony, of each half a drachm, molasses sufficient to make the ball. If the fever is not broken in twelve hours repeat the ball. As soon as the desired object is obtained give one of the following powders twice a day in a sloppy mash: nitrate of potassa 1½ ounces, nitrate of soda 6 ounces, divide into six powders; or give the following: Extract of belladonna 1 drachm, spirits of nitre 1 ounce, solution of acetate of ammonia 4 ounces, in half a pint of water, as a drench. The throat and sides should be blistered; the ordinary fly blister, made thin with turpentine, is very good, or mustard mixed with equal parts of water and spirits of hartshorn. Either of the above when used should be well rubbed in with the hand.

Nasal Gleet.

This is a chronic discharge from one or both nostrils, of a whitish, muco-perulent matter, the result usually of neglected catarrh. The general health of the animal does not seem to suffer; he looks well, feeds well and works well, yet we have this discharge, which is caused by weakness in the secretory vessels of the lining membrane of the nose. The successful treatment in all cases where this disorder has existed has been on the tonic principle; bleeding and purging are positively injurious. Give one of the following powders night and morning: Seaquin-chlorid of iron 2 ounces, powdered cinnamon 1 ounce; mix and divide into four powders; or carbonate of iron, pulverized gentian and pulverized quassia, of each 1 ounce; divide into four powders; or nux vomica pulverized ½ ounce, linseed meal 2 ounces; divide into eight powders. Another good preparation is muriate of baraties ½ ounce, linseed meal 1 ounce; divide into eight powders.

Canker.

This is a more aggravated form of thrush, often proving very troublesome to manage. It is a continuation of the thrush between the horny frog and the internal structures of the foot, causing separation between them. Treatment: Cut away all the horn which has been separated from the soft structures of the foot, and apply the following ointment: Take equal parts of pine tar and lard, melt over a slow fire and add sulphuric acid very slowly until ebullition ceases, or use colodion ½ ounce, castor oil

1 ounce; mix and apply to the parts. The foot must be protected from dirt by a bandage or a leathern boot.

Ophthalmy Simple.

Inflammation of the eye frequently occurs in young horses soon after stabling. Symptoms: A watery discharge from the eye, eyelids partly closed, membrine of lid on under side much reddened. Treatment: Give the following ball and bleed from the angular vein under the eye, allowing it to bleed until it stops from the coagulation of the blood: Barbadoes aloes 6 drachms, nitrate potassa 2 drachms, tartrate of antimony 1 drachm; mix with molasses or honey in one ball. Bathe the eye with a salution, as follows:: Laudanum 1 ounce, rain water 1 pint; mix. Or, acetate of lead 1 drachm, sulphate of zinc ½ drachm, rain water 3 pints; mix for use. Either of the above may be applied with a soft sponge two or three times a day.

Specific Ophthalmy (Moon Blindness.)

Symptoms: Membranes of the eye reddened, opacity, or white film over the eye ball, watery discharges from the eyes, which are partially closed. This disease is seldom cured effectually, but the eyes may be cleared up and the attacks warded off for some time by the following treatment: open the bowels with the following ball: Barbadoes aloes 1 ounce, gentian pulverized 2 drachms, niter pulverized 2 drachms; mix with molasses for one ball. Give night and morning one-half drachm doses of colchicum root in the feed, which should be mashes,

and bathe the eye with the following wash: laudanum 1 ounce, rain water 1 pint. Mix, and bathe the eye two or three times a day. Or, extract belladonna 1 drachm, rain water 1 pint; mix and use in like manner.

For Spavin.

Five ounces euphorbeum, 2 ounces Spanish flies (fine), 1 ounce iodine, dissolved with alchohol, ½ ounce red precipitate, 1 ounce corrosive sublimate, ½ ounce quicksilver, 6 ounces hog's lard, 6 ounces white turpentine, ¼ pound verdigris. Melt the lard and turpentine together, then while hot add all together. Mix well, when cold, fit for use. Rub it in thoroughly on the spavin every day for three days; then wash clean with soap suds; omit for three days and then repeat for three days again, and so on until a perfect cure is produced. Should it blister, use it more cautiously. Used with much success.

To Cure a Weakness of the Back.

The horse is sometimes so weak in the back he sometimes falls and is unable to get up. Give one grain of strychnine night and morning; next equal parts of pine tar and pitch warm until it spreads easily, and spread over the small of the back, from the hip forward ten inches, and across to almost the points of the hips. Then spread on cantharides until the pitch is thoroughly covered. Then cover with two thicknesses of cotton flannel. To be left on until the horse is fully recovered. Given by A. G. Madison, of Massilon, O. Claimed he had cured several cases by this treatment so

bad that there was no use of the hind parts. The treatment is good.

Hoof Ointment.

Take resin 4 ounces, beeswax 5 ounces, lard 2 pounds; melt together; pour in a pot, and add 3 ounces turpentine, 2 ounces finely pulverized verdigris, 1 lb. tallow; stir all until it gets cold. This is one of the best medicines for the hoof. It is also good for caulk or bruises of the feet.

Hoof Ointment No. 2.

Resin 4 ozs., beeswax 4 ozs., lard 2 pounds, tallow 1 pound; melt together, and when cool stir in oil of turpentine 4 ozs.

Thrush.

This is a rotting of the frog, with a discharge of matter from the cleft or division of the frog, occasionally producing lameness. The treatment is simple and effectual. Wash the parts well with soap and water, then apply powdered sulphate of copper to the parts, and fill up all the cavities with cotton, packed in, so as to keep out all dirt. This process should be repeated in a few days if necessary.

For Stifle.

First, prepare your medicine. Take 4 quarts white oak bark—rosked; put in 8 quarts water; boil to 2 quarts. Turn off the liquid while hot,

and add a three-penny paper of tobacco. Now let stand until a little above blood heat. Now heat a flat iron or a brick, then proceed immediately to put the stifle in its place. Now bathe it thoroughly with the decoction about five minutes, then apply your flat iron as near as the animal will bear, until all absorbed. Then give the animal rest for one hour, and if it should possibly slip out again, repeat as before, observing care about straining for a few days.

Warts.

These fungous growths appear in the horse most frequently about the mouth, nose and lips; but they are occasionally found upon other parts of the body. They are sometimes found in large numbers about the lips of colts, and are generally rubbed off, or drop off; if, however, they grow large and become deeply rooted, they may be cut off by passing a needle through the center, armed with a double thread, and tied tightly around the neck on each side. This prevents the possibility of the ligatures being rubbed off. Or, they may be painted over with the per-manganate of potash, a few applications of which will entirely destroy warts of a large size, or they may be removed with a knife.

Diuretic Drops

That are reliable for stoppage of water, foul water, or inflammation of the kidneys, in all cases:

Take of sweet spirits of nitre 4 ounces, balsam copaiba 2 ounces, oil of juniper 2 ounces, spirits

of turpentine 2 ounces, gum camphor (pulverized) 1 ounce; mix all together, and shake well, bottle, and it is fit for use. For man or beast, under all circumstances where a diuretic is required.

Dose: For a horse, one ounce in a half pint of milk once in six hours; for a man, one teaspoonful in a tablespoonful of milk once in six hours. Be sure and shake the ingredients up well before turning out for use.

For Mange, Etc:

Tar 1 ounce, sulphur ½ ounce, lard 1½ ounces; mix. Useful in mange and other skin diseases. Another for the same: Sulphur 1½ ounces, oil juniper ½ ounce, resin ointment 3 ounces; mix.

To Recruit a Horse Hide-bound or Otherwise Out of Sorts.

Nitrate potassa (or saltpetre) 4 ounces, crude antimony 1 ounce, sulphur 3 ounces. Nitrate of potassa and antimony should be finely pulverized, then add the sulphur and mix the whole well together. Dose: A tablespoonful of the mixture in a bran mash daily. A favorite remedy.

A Shoulder Strain.

This is caused by severe blows, strains or falls, etc. Symptoms: The animal drags the leg, with the toe on the ground, and cannot raise the foot. Treatment: Local bleeding is very effectual, with a purging ball. Fomenting the shoulder with hot water will be found useful in two or three days. The following lini-

ment should be applied two or three times a day: Laudanum 1 ounce, spirits camphor 1 ounce, tincture myrrh 1 ounce, castile soap 1 ounce, alcohol 1 pint; mix for use. Or, linseed oil 1 pint, oil turpentine 2 ounces, spirits hartshorn 3 ounces; mix, shake well, and use once a day for three or four days.

Spavin and Ringbone.

These are diseases of precisely the same character, requiring the same treatment. They are too well understood to take up time for their consideration, in a pathological sense, in a work like this.

Treatment: Blister the parts once in two weeks, and turn out to grass. A good application is the following: Fly blister 2 ounces, turpentine 1 ounce; mix for use. Or, fly blister 2 ounces, turpetine 1 ounce, oil origanum ½ ounce; mix.

Splints.

Treatment: The same as for spavin, or the following will be found to answer a good purpose: Iodine ointment 1 ounce, mercurial ointment ½ ounce; mix and apply once a day for a week.

The following is an excellent application for either of the above, but must be used cautiously: Powdered cantharides 1 ounce, oil of turpentine 1 ounce, powdered cuphorbium ½ ounce, oil origanum ½ ounce, lard 8 ounces; mix.

Blood Spavin.

If not of long standing, the following will be found very effective though simple: Rub on

soft soap at night and wash off in the morning, repeating until cured. Two or three applications will cure if recently caused. The firing iron is the surest and safest remedy for spavin, but must be used with skill.

Chronic Cough.

This is generally the consequence of neglected catarrh affections, worms, etc. Treatment: Give the following twice a day: Barbadoes aloes 2 ounces, linseed meal 13 ounces; mix with molasses; dose 1 ounce. Or, ammoniacum 1 ounce, squills pulverized ½ ounce, aloes pulverized 1 ounce, linseed meal 16 ounces; mix with molasses and divide into four balls, one to be given at night only.

To Cure Cough—No. 2 (Excellent).

Put all the tar into alcohol it will cut, and add one-third in quantity of tincture belledonna. Dose: From one to two teaspoonfuls once or twice a day. Very good.

For Wind Galls.

Olive oil 3 ounces, nitric acid 1 ounce. Rub in as much daily, or every second or third day, as it will bear without starting the hair.

Palpitation of the Heart.

This disease is known to horsemen as the "thumps," in consequence of the violent action of the heart, causing a jerking or shaking of the entire animal frame, observable at a dis-

tance of several yards. This disease is sometimes preceded by an obscure lameness, generally occurring in the off fore-leg, which in medical language is termed sympathetic.

Treatment: The worst cases yield in two hours to the following simple treatment: Divide a drachm of digitalis into five powders and give one every fifteen minutes on the tongue.

Charbone.

1 drachm hyoceamus, 1 drachm quinine, 1 drachm aconite, 2 ounces water. Give from forty to sixty drops every hour in water. Take the blows and roots of alder, make a strong tea of them, and give all the horse will drink of it. Seton in the breast, also back of the fore-legs, on each side.

To Cure an Indolent Ulcer.

Take the green scum that gathers on the water in the frog ponds in the spring and summer. Boil over a slow fire; then add fresh butter, to the consistence of an ointment. An Indian remedy; cured an ulcer that had resisted all other treatment.

Anti-Spasmodic Tincture for Man or Horse.

Oil of cajeput 1 ounce, oil of cloves 1 ounce, oil of peppermint 1 ounce, oil of anise 1 ounce, alcohol 1 quart. Mix all together and bottle for use. Dose for horse: 1 ounce every fifteen minutes in a little whisky and hot water, sweetened with molasses. Continue until relieved. Dose for a man, 1 teaspoonful. The alcohol or whisky should be omitted if given for colic.

Magic Liniment.

Two ounces oil of spike, 2 ounces of organum, 2 ounces hemlock, 2 ounces wormwood, 4 ounces sweet oil, 2 ounces spirits ammonia, 2 ouuces gum camphor, 2 ounces spirits turpentine, and 1 quart proof spirits—90 per cent. Mix well together, and bottle tight. For sprains, bruises, lameness, etc., this liniment, without turpentine, has achieved wonderful cures for human ailments. For domestic purposes it is invaluable. (This is pretty strong, and must be used cautiously.) An exellent counter irritant.

Liniment for Open Wounds.

Take sulphate of copper (copperas) one ounce, white vitroil 2 ounces, muriate of soda (salt) 2 ounces, oil linseed two ounces, Orleans molasses 8 ounces. Boil over a slow fire fifteen minutes in a pint of urine all of the above ingredients. When nearly cold add 1 ounce of oil of vitroil and 4 ounces of spirits of turpentine, and bottle for use. Apply to the wound with a quill, which will soon set the wound to discharging, and perform a cure in a few days. Be careful to keep the wound covered either by a bandage or a plaster. Should be applied once or twice a day, until it discharges freely.

Stimulating Liniment for Injuries, Bruises, Etc.

Two ounces oil hemlock, 1 ounce organum, 2 ounces oil spike, 3 ounces spirits ammonia, 3 pints alcohol. Mix, and let stand for twenty-four hours, when, if too strong, reduce by adding one-third alcohol.

Sitfasts.

These are dark, hard, scabby spots upon the back, which are dead skin, and cannot be easily removed; but by poulticing for several days they become soft and may be torn off. Tincture of myrrh, applied two or three times a day, will generally effect a cure after the dead skin is removed.

Warbles.

These arise from bruises, which cause superficial swellings that sometimes supperate. They should be freely opened, and the matter well washed out. A solution of sulphate of zinc or alum water, is all that is required to effect a cure.

Wind Galls, Blood Spavins, Thoroughpins, Etc.

Two ounces salmoniac, 2 ounces alum, 2 ounces saltpetre. Put into a pint of vinegar and heat until dissolved. Put on as hot as can be borne once a day.

When there is much enlargement, add the following liquid blisters to half a pint of the above, and apply once a day: ½ ounce cantharides, 1 gill alcohol, 1 gill spirits turpentine. This is highly recommended.

Heaves.

Give 1 tablespoonful lobelia seed once a day. At the same time keep the bowels a little relaxed by giving small doses of aloes, or mashing. This is highly recommended. A favorite remedy.

Farcy—Cure of.

One-quarter pound sulphur, ⅛ pound saltpeter, 1 ounce black antimony. If acute, give one tablespoonful twice a day. If sub-acute, once or twice a week. The sum of $50 was repeatedly paid for this prescription.

Scratch Ointment.

Two ounces Goulard's extract, 2 ounces sulphate of zinc, 8 ounces lard. This prescription was highly valued. The medicine had a large sale, and considered very valuable. Said to be good for rheumatism. Invaluable for the cure of corns, sore teats, or swelled milk bag usual after calving. Was sold repeatedly for $10.

To Reduce Swelling of the Legs and Strengthen the Tendons after Hard Driving.

A favorite remedy on Long Island. One pint alcohol, 1 ordinary sized beef gall, 1 ounce organum, 1 ounce oil spike, 1 ounce gum myrrh, ½ ounce camphor gum. Frist wash and rub clean and dry. Then bathe with the liniment and rub dry. Then apply again and bandage the leg, being careful not to bandage too tight. This is an excellent remedy, in fact one of the best of liniments for strains or bruises.

For Reducing Swelled Legs, Etc.

One tablespoonful of saltpeter to six quarts of soft water; apply hot as possible. When there is much inflammation add a gill of camphorated spirits. This is also good.

Wash for Reducing an Inflamed Wound.

One ounce sulphate of zinc, 1 ounce crotus martes, ½ ounce sugar lead, 1 pint water. A sore will not smell bad when this wash is used.

Wash for Fresh Wounds.

One teaspoonful white vitriol, 1 teaspoonful copperas, 2 teaspoonfuls fine gunpowder; add to 1 quart of boiling water and let it stand until cool. If the wound is deep apply with a syringe. One of the best of remedies for the purpose recommended.

Healing Lotion No. 2.

Tincture myrrh 1 ounce, tincture aloes 2 ounces, water ½ pint: mix.

Liniment for Mange.

No. 1—Oil turpentine 4 ounces, oil tar 4 ounces, linseed oil 6 ounces; mix.

No. 2—Blue ointment 2 ounces, camphor tincture 1 ounce, spirits ammonia 2 ounces, sweet oil 6 ounces; mix.

For Fresh Strains, Etc.

Carbonate ammonia 2 ounces, apple vinegar ½ gill. Rub in well. An excellent remedy.

Preparation to Kill Lice on Horses.

One ounce of arsenic to a pail of soft water. The horse should be washed thoroughly in some warm place. It is not known to many that hen lice and common human body lice grow on horses with great rapidity. This remedy is a sure cure, and is invaluable.

Cure of Scratches.

Four ounces tincture arnica, 4 ounces glycerine. If heels are cracked badly add : 1 ounce iodine, 2 ounces tincture myrrh, ½ ounce gun powder (powdered fine). Put all into a bottle and shake thoroughly ; put on two or three times a day.

Scratches.

Wash the part clean with castile soap and rub dry. Then sprinkle on hickory wood ashes. Repeat once a day. Given as an infallible means of cure ; cured after everything had failed (so claimed.)

Cure of Grease Heels.

One-quarter pound bar lead melted, mix in sulphur while hot ; let it burn until pulverized. Then add a tablespoonful of hog's lard. Wash the parts and rub on the ointment once or twice a day. A *favorite remedy, and claimed to be very effective.* Given by a physician.

Cracked Heels.

Two ounces resin, 2 ounces copperas, 2 ounces alum, 1 ounce beeswax, 1 pint tar, size hen's egg of tallow ; boil over a slow fire, skim off the filth and add the scrapings of sweet elder a handful ; when cool fit for use. This is a remedy of great value ; have used it with the most marked success.

To Cure Weak Eyes.

Take ½ ounce saltpetre, 1 ounce sulphate of zinc, 1 ounce sugar of lead ; put in a pint of vinegar

and a quart of soft water; take a small sponge, saturate with mixture, and squeeze in the hollow over the eye once a day until cured. This remedy was claimed to be very effective. Being a safe treatment it may be tried with confidence.

Inflamed or Wounded Eyes.

Medicamentum, or Harlem oil and calomel. Put as much of the oil as possible, with a feather, in the eye; then fill a goose quill with calomel and blow into the eye. Repeat twice a week.

Dr. Ives's Treatment for Inflammation of Bowels and Colic.

One ounce laudanum, 1 ounce spirits nitre, 1 ounce ether sulphuric, ½ pint water. Give as a drench; if not better in from thirty minutes to an hour repeat the dose, adding ½ ounce laudanum and ½ ounce digitalis.

To Cleanse the Blood.

One ounce saltpetre, (in winter give less saltpetre,) 1 ounce resin, 1 ounce antimony, 1 ounce carbonate iron, 3 ounces cream tartar; if there is a loss of appetite or cough add 3 ounces fenugreek (pulverized), 2 ounces licorice (pulverized) root; Dose: Tablespoonful two or three times a day.*—Dr. Ives.

Vegetable Caustic.

Make a strong lye of hickory or oak ashes, put into an iron kettle and evaporate to the consistency of thin molasses; then remove into a sand bath

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* Note.—In all cases of this character bran mashes or soft food of some kind should be given.

and continue the evaporation to the consistency of honey. Keep it in a ground stopple glass jar.

This caustic is very valuable in fistulas, cancers, scrofulas and indolent ulcers, particularly where there are sinuses, necrosis or decay of bone, and in all cases where there is proud flesh, and also to excite a healthy action of the parts. It removes fungous flesh without exciting inflammation, and acts but little except on spongy or soft flesh.

Condition Powders.

Take 1 pound of ginger, 1 ounce of anise seed, pulverized, 1 ounce of fenugreek seed, 2 ounces of ginseng root pulverized, 1 ounce of the seed of sumach berries pulverized, 1 ounce of antimony; mix it with 1 pound of brown sugar. This is excellent for coughs, colds, or to give a horse an appetite.

To Cover Heaves.

Oil tar 1 ounce, oil amber 1 ounce; mix and give 15 or 20 drops in feed daily.

Simple Liniment for Bruises and Maturating Soars

A favorite remedy and highly recommended: 1 tablespoonful of salts in a tumbler of whisky. Apply night and morning.

A Cheap Simple Liniment and Very Good.

Salmoniac and vinegar. Excellent for bruises. Should be put on plentifully.

Purging Balls.

No. 1.—Barbadoes aloes 1 ounce, ginger pulverized 1 drachm, gentian pulverized 2 drachms; mix with molasses.

No. 2.—Barbadoes aloes 1 ounce, ginger pulverized 1 drachm, gentian pulverized 1 drachm, croton oil 6 drops; mix with molasses.

No. 3.—Barbadoes aloes 6 drachms, linseed meal ½ ounce, croton oil 4 to 8 drops; mix with honey.

No. 4.—Aloes 4 to 8 drachms, soft soap 4 drachms, linseed meal 2 drachms; molasses to make ball.

Tonic Balls.

No. 1.—Arsenic white 6 to 8 grains, ginger 1 to 2 drachms, linseed meal 2 drachms; molasses sufficient to make ball.

No. 2.—Sulph. copper 1 drachm, sulph. zinc 1 scruple, aniseed 2 drachms, gentian 1 drachm; molasses to make ball.

No. 3—Sulph. iron 2 drachms, gentian 2 drachms, ginger 1 drachm, caraway seeds ½ drachm; mix with molasses.

No. 4.—Cantharides pulverized 4 grains, sesquichloride of iron 2 drachms, cinnamon pulverized 1 drachm; mix with honey or molasses.

Flatulent Colic.

Sulphate of potash 2 ounces, gentian powdered 2 drachms; to be given in a pint of warm water.

Powder for Sore Mouth.

Prepared chalk 2 ounces, charcoal pulverized 1 ounce, burnt alum ½ ounce, sulphate zinc 2 drachms; mix.

Fever Draught for Horses.

Extract belladonna 1 drachm, spirits niter 1 ounce, sal. acetate of ammonia 4 ounces; mix.

Comp. tinc. cinnamon 3 ounces, dilute sulphuric

acid 4 ounces; mix two tablespoonfuls in a quart of water; to be given to mares or cows in cases of flooding.

For Diarrhœa in Horses.

Powdered opium 1 drachm, powdered kino 2 drachms, prepared chalk ½ ounce. Mix and divide into three powders. Given at intervals of six hours.

Curb.

This is an enlargement at the back of the hock, about four inches below the cap, arising from strains, bruises, breaking down of the hock, etc.

Treatment: In recent cases the part should be bathed with tincture of iodine once a day, or use the iodine ointment. Take a little blood from the sephena vein, on the inside of the hind leg, above the hock. Should this not succeed, blisters must be resorted to. The same applications as are used for spavin, are applicable here.

How to Clean and Oil Harness.

First, take the harness apart, having each strap and piece by itself; then wash it with warm soap suds. When cleaned, black every part with the following dye: One ounce extract logwood, 12 grains bi-chromate of potash, both pounded fine, when put into two quarts of boiling rain water, and stir until all is dissolved. When cool it may be used. You can bottle and keep for future use if you wish. It may be appied with a shoe brush, or anything else convenient. When the dye has struck in, you may oil each part with neats-foot oil, applied with a paint brush or anything convenient. For second oiling, use one-third castor oil and two-thirds neats-foot oil mixed. A few hours after

wipe clean with a woolen cloth, which gives the harness a glossy appearance.

This preparation does not injure the leather or stitching, makes it soft and pliable, and obviates the necessity of oiling as often as is necessary by the ordinary mothod.

Green Ointment.

Take 6 pounds of lard, put in a ten gallon kettle, add 2 gallons of water, cut jimson weeds and fill them in, and cook them four to six hours slow, and cook all the water out, then put into jars. Add to each pound of ointment 1 ounce of turpentine. This is cheap and good stable ointment. Good for scratches, galls, cuts, etc.

Cure for Hog Cholera.

Chloride of lime one ounce, blue stone one ounce, dissolved in water. This is enough for three feeds. The corn must be soaked twelve hours in this liquid before feeding. Feed once a day for three days, or in case the disease is very stubborn, feed twice a day for two or three days. This has been thoroughly tested, and cured every case, and may be considered a positive cure.

Worms.

Symptoms: The horse eats but will not thrive, his belly gets big, his hair stays.

Cure: Give one quart of strong tea made of wormwood, at night. The next day give 7 drachms of aloes, 2 drachms of calomel. Make into a ball and give it. Give no cold water for forty-eight hours; make it milk warm. Give him two or three bran mashes and some of the cleansing powder. If he shows any more symptoms, repeat the dose in three weeks. This will never fail.

Cleansing Powder.

This is used when the blood is out of order—good to restore lost appetite, yellow water, etc. Take 1 pound of good ginger, 4 ounces powdered gentian, 1 ounce of nitre, ½ oz., of crude antimony. Mix all well; give one large spoonful every day in wet food. This is perfectly safe.

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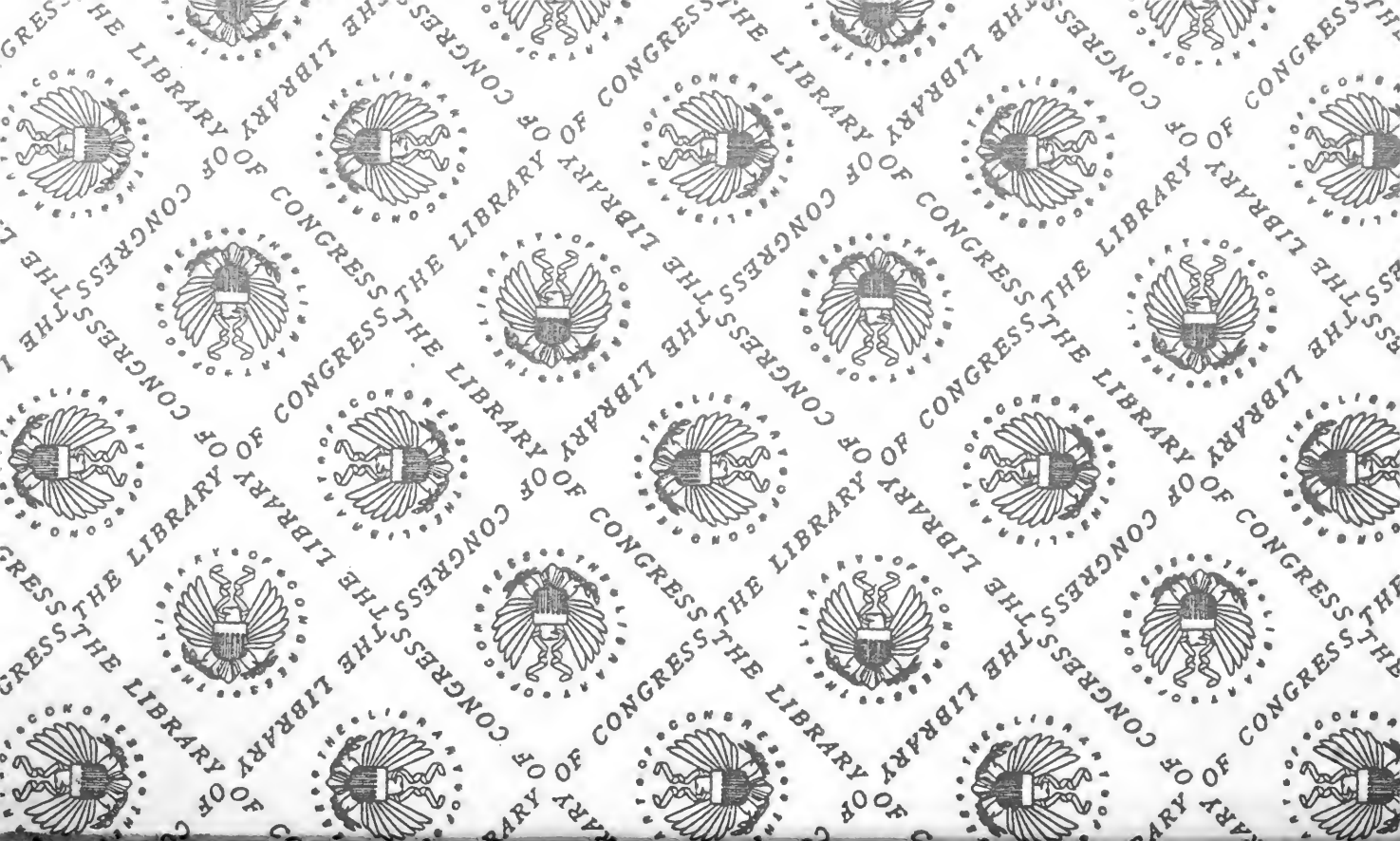
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